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# THE JOURNAL

OF THE

## Tennessee State Medical Association

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ISSUED MONTHLY under Direction of the Trustees

Volume XII,  
Number 1.

NASHVILLE, TENN., MAY, 1919

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# **THE JOURNAL**

OF THE

## **TENNESSEE STATE MEDICAL ASSOCIATION**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

ISSUED MONTHLY, under Direction of the Trustees

OLIN WEST, M. D., Editor and Secretary

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NASHVILLE, TENN., MAY, 1919

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NUMBER 1

## **TENNESSEE STATE MEDICAL ASSOCIATION**

### **Minutes of the Eighty-Sixth Annual Meeting. Held at Nashville, April 8, 9, and 10, 1919.**

#### **APRIL 8—FIRST DAY.**

##### **MORNING SESSION.**

The Association met at the Y. M. C. A. Building and was called to order at 10:30 a. m. by Dr. J. F. Gallagher, Nashville, Chairman of the Committee on Arrangements.

Rev. Ryland Knight, of the Immanuel Baptist Church, delivered the following invocation:

"Our Heavenly Father, we thank Thee for the privilege of finding health and wisdom from Thee for all the undertakings of life. We pray that Thy blessing may abide with this organization as they meet to discuss the problems that come before them. We thank Thee for the medical profession, the gracious ministry of healing. We praise Thee that the Lord was called the Great Physician. We pray that Thou wilt direct these physicians in discussing the matters pertaining to their work. Give them wisdom, foresightedness and courage. We pray Thee that there may be in the hearts of each one of us the consciousness that Thou wilt be our helper in the trying ordeals that come to us during our day's work.

"We thank Thee for the physicians who went across the seas and for those who min-

istered at home. We thank Thee for all the charity that is in their hearts and for all the deeds of kindness which they do. God bless them! God be gracious to them, and God grant them His presence and His help, through Jesus Christ our Lord. Amen."

**Address of Welcome on Behalf of the Nashville Academy of Medicine and Davidson County Medical Society, by Dr.**

**W. H. Witt, Nashville.**

Mr. President and Gentlemen: I have been asked to extend to you a word of welcome on behalf of the Nashville Academy of Medicine and the Davidson County Medical Society. True, our organization is only a unit in the State Society, and in that way not different from the county societies in which you hold membership, and in a very real sense we have no right to welcome you to your own house, for wherever the State Society meets is your house, your abiding place, quite as much as it is mine. But it is the custom, as well as the pleasure, for the local organizations of our meeting places to stand in some sense as host to those in attendance on an annual meeting, and in that sense there is a propriety in extending to you a formal welcome.

It is unfortunate that we are not able to do more to make you feel at home and to give you more of our time; but our inability to do this is due to the very character of our profession. It is so often difficult for the local members to even attend the scientific meetings, still less to throw themselves wholeheartedly into the entertainment of their guests. The lovely hospitality extended to us when we are with you, no matter where, throughout the state, is almost a rebuke to us that we are able to do so little for you when our guests. I am quite aware that you come here not for social enjoyment, but for scientific instruction, both to give and receive, yet were it possible we would give you a full measure of hospitality.

The past year has been an eventful one in the world of men. A year ago, I dare say, you met with heavier hearts than beat in your breasts today. A miracle has been performed before our very eyes. An arrogant enemy—our enemy—seemed to have victory in his grasp. Our allies were disheartened and their ranks broke almost at the sight of German troops. Big Bertha tossed her pellets some seventy miles as you would throw a pebble in a stream. The day of superman seemed to have arrived, and the superman seemed to wear a helmet with a spike in it, and his name seemed to be Fritz. But the battalions of new crusaders were on their way; America was on the move, bringing men, wealth, and, above all, faith and courage, and sustained by a history of not yet having applied herself to any task she did not achieve. Our soldiers went. They were placed here, there and yonder. And here, there and yonder there was something breaking. From the time our boys got their stride and our allies had had time to recover their normal spirits and to feel confidence in their new and untried comrades in arms, the war was won; the forces of right had prevailed. There is no foe so dangerous as one who has been drawn into a fight not of his own making. Our people had been in a sense dragged into the war by the continued insolence of the heartless enemy, and when they fought they fought to finish the job. I am not one of those who think America did it all. Far from it. The chief glory of defeating the German must always go to

the French and then to the British, but at least from the standpoint of the services of those in the fighting areas, America may well be proud. So I congratulate you that you meet today with lighter hearts than you had a year ago, though I doubt not that not a few of you are mindful of a white cross in France where rests the body of some one dear to you. But there is another body of men who have done fighting in the past year, but who wear no Croix de Guerre and no distinguished service medal for their reward. They have only a consciousness of a duty well performed, and are able to see many restored to health through their untiring services. I refer to the doctors in private practice. Do not waste your sympathy on any doctor that was engaged in his country's military service. His labors were as nothing compared with those of you who in saddle or buggy or auto passed from house to house on your errand of mercy and scientific attention through an unprecedented wave of sickness. You have deserved well of your country; and let this consciousness of service modify the regrets that any of you may have that by virtue of age, or circumstances over which you had no control, you were not privileged to serve in uniform. The few days you shall spend in attendance at this meeting will be to many of you the first relaxation you have had in a year. Now, let them be days of relaxation; forget for the present the things back at home and take a rest. If Colonel Burch and Colonel Malone have any big tales to tell you of what they saw and did in France, just believe them and admire them. And if Captain Harris tells you he slept with cows and sheep and pigs and lived on raw cabbage for ten days, believe him, too. It will encourage them to magnify their tales and make them more bushy. But if anybody tells you that I ever missed a meal, heard a gun, or saw a cootie, put him down as chronicler of things as they are not.

It was suggested to me by the Committee on Arrangements that I embody in my words of welcome a full description of the powder plant. This institution has not been talked about by Nashvillians so much as it deserves, and it would be a great pleasure to me to enter into a detailed account of it for the



special benefit of Chattanooga and Memphians. But never having seen this magic city of potential detonation, I fear I might get my lines crossed. I only wish to say to them not to let their envy suggest to them that the close of the war means the closing of the powder plant. For we are a resourceful people, and have already perfected arrangements whereby, instead of gunpowder, we will make Dover's powder and licorice powder. And as one of these loosens where the other binds, the demand will be perpetual, and we look forward to being the largest city in the world. Let small towns take notice. (Laughter.)

Gentlemen, if I had the keys of the city, whatever they are, I would give them to you. If I had the keys for the vault of the Fourth National Bank, I would give them to you, but, having neither, I have to be satisfied with handing you the key to Jim Handley's locker and bidding you help yourself. In a word, make yourself at home. On the streets, keep to the right; in this hall, don't believe all you hear, and in certain offices keep your eye on your teeth and your hand on your tonsils. Careful observance of these simple directions will keep Memphians from being run over, and will save many of you from having to gum it the rest of your lives. (Loud applause.)

**Response to Address of Welcome on Behalf  
of the Tennessee State Medical Association  
by Dr. A. F. Richards, Sparta.**

Mr. Chairman and Members of the Association: I did feel like I would probably have something to say on this occasion, but I feel more cut off than ever now, and so I expect to make a flat failure. But I want to thank you especially for this welcome, and I may say to you that it is with no small degree of pleasure that I appear on this platform again to accept the welcome extended by the medical profession of Nashville, the home of so many great men who have long since folded their tents and have gone on to their long home, but have left a great and good name as a heritage to their noble sons.

It is a great pleasure to come to Nashville, the Athens of the South, the center of learn-

ing and refinement. It affords us pleasure to accept this welcome offered, and in accepting it I only voice the sentiments of this representative body of medical men from the remote portions of the state. We have tried this experiment before. In fact, it is not an experiment. We know, gentlemen, that we will receive at your hands the very best entertainment possible.

This is one of the years in which we have more to be thankful for than ever before. The great world war is over; the damnable flu has about ceased. It brings quiet and peace to us, and it is on this occasion, gentlemen, that we are about to be revived, reformed and made better. While we have had to leave many of our men over there, we hope to see so many of our members returning that we may glean from them their rich and rare experiences that will broaden us and inform us, in order that we may go home better prepared to do our year's work by this Association.

I want to say, on behalf of this organization, and in accepting this welcome, that this number of men will furnish you with tastes varied enough to not forsake the testing of your viands, though they be legion. (Loud applause.)

Dr. Gallagher: It was our hope to have the Governor with us this morning—in fact, we still expect him. But he is, as you probably know, a very busy man, and cannot get away at this time. We will still hope that he will come down this morning and address us, but inasmuch as he is not here, we will proceed with the program.

Before turning the meeting over to our worthy President, Dr. Richmond McKinney, I would like to announce on the part of the Nashville Academy of Medicine that we have arranged for a dinner tomorrow evening at 7 o'clock at the Nashville Golf and Country Club. We are very desirous to have every member attend this dinner.

It is now with great pleasure that I present to you your President, Dr. McKinney, who needs no introduction. (Applause.)

President McKinney then took the chair and delivered his address. He selected for his subject, "Better Diagnoses and Better Case Records."

Following the delivery of the President's address, the reading of papers was proceeded with.

Dr. Duncan Eve, Nashville, read a paper entitled, "Necessity of Making Blood Pressure Examinations of Persons of Advanced Age at Stated Intervals," which was discussed by Drs. Warr, Jones, and discussion closed by the the essayist.

Dr. W. Scott Farmer, Nashville, followed with a paper on "Paranoia," which was discussed by Drs. Smith and Crockett, after which the discussion was closed by the author of the paper.

Dr. W. T. Pride, Memphis, read a paper on "Lacerations of the Cervix and Perineum," which was discussed by Drs. Sheddan, Jelks, Black and Baird, and in closing by the essayist.

On motion, the society adjourned until 2 p. m.

#### FIRST DAY—AFTERNOON SESSION.

The Association reassembled at 2 p. m. and was called to order by the President.

Dr. J. T. Moore, Algood, read a paper entitled, "A Plea for Better Rural Sanitation; Some Preventive Measures."

Dr. E. L. Bishop, Nashville, followed with a paper on "Rural Health Work in Tennessee."

These two papers were discussed together by Drs. Sheddan, Krauss, Jones, Hardison, and in closing by the authors of the papers.

Dr. S. T. Hardison, Lewisburg, spoke on "The Doper and the Doctor."

His remarks were discussed by Drs. Waller, Davis, and Sheddan, after which the discussion was closed by the essayist.

Dr. Sergeant P. Martin, Dyersburg, read a paper entitled, "Notes on the Recognition of Certain Renal Lesions by Pyelography," which was discussed by Dr. Bromberg and discussion closed by the essayist.

Dr. R. C. Bunting, Memphis, read a paper on "Vertigo in Cerebral Conditions."

This paper was discussed by Drs. Jelks, Witt, LeRoy, McKinney, and in closing, by the essayist.

Dr. Otis S. Warr, Memphis, read a paper on "Achyilia Gastrica," which was discussed by Drs. Krauss, Jones and Witherspoon, and in closing, by the essayist.

Dr. Willis C. Campbell, Memphis, read a paper on "Bone Grafting." Discussed by Dr. Baird and in closing by the essayist.

Dr. Herman Hawkins, Jackson, read a paper entitled, "The Men Who Didn't Go, by One of Them," after which the Association adjourned until 8 p. m.

#### FIRST DAY—EVENING SESSION.

The Association reassembled at 8 p. m. and was called to order by the President.

Dr. Robert C. Lynch, New Orleans, La., read a paper by invitation, entitled, "Suspension Laryngoscopy, and Its Relation to Modern Surgery of the Larynx, Upper Esophagus and Bronchi."

Dr. William D. Haggard, Nashville, presented a paper with motion pictures, on "Some Surgical Lessons of the War."

Dr. J. P. Baird, Dyersburg, read a paper on "Talipes."

On motion, the Association adjourned until 9 a. m. Wednesday.

#### APRIL 9—SECOND DAY.

The Association met at 9 a. m. and was called to order by the President.

Dr. Frank A. Jones, Memphis, read a paper entitled, "The Present Status of Ornamental Evening Dress Medicine."

Discussed by Drs. Sheddan, Litterer and in closing by the essayist.

Dr. Paul DeWitt, Nashville, read a paper on "Some Observations on the Selective Service Examinations," which was discussed by Dr. Hawkins.

Dr. L. E. Burch, Nashville, read a paper entitled "Some Practical Procedures Used in the Army That Are Applicable to Civil Work," which was discussed by Dr. Malone, and in closing by the essayist.

Dr. R. C. Deriveaux, United States Public Health Service, Nashville, read a paper on "The Government Plan for the Control of Venereal Diseases."

Discussed by Drs. Jelks, Waller, Sheddan, West, LeRoy, and in closing by the essayist.

Dr. I. G. Duncan, Memphis, read a paper entitled, "Hemorrhoids, With Special Reference to Treatment," which was discussed by Drs. Jelks, Lym, and in closing by the essayist.



Dr. William T. Black, Memphis, read a paper entitled "Congenital Diverticulum of the Intestines; Report of a Case of Tumor Growing From the Tip of an Apparent Congenital Diverticulum of the Lower Sigmoid." This paper was discussed by Drs. Jelks, Holder, and in closing by the essayist.

Dr. Perry Bromberg and Dr. William Litterer, Nashville, contributed a joint paper on Aeriflavine: Its Clinical Application in Gonorrhea and Allied Conditions," which was discussed by Drs. Duncan, Lynn, Hall, and in closing by Dr. Bromberg.

On motion, the Association adjourned until 2 p. m.

## SECOND DAY—AFTERNOON SESSION.

The Association reassembled at 2 p. m. and was called to order by the President.

Dr. Michael Campbell, Nashville, read a paper entitled "Asthenic Irritative Insanity," which was discussed by Dr. Hill.

Dr. W. N. Lynn, Knoxville, read a paper on "The Puzzle of the Gastric Ulcer," which was discussed by Dr. Witherspoon, and in closing by the essayist.

Dr. C. D. Robbins, Gordonsville, read a paper entitled, "The Practical Phase of Blood Pressure," which was discussed by Dr. Walker.

Dr. E. T. Newell, Chattanooga, read a paper on "Fracture of the Pelvis, with the Report of Case," which was discussed by Drs. Eve, Campbell and Eve (Jr.), and in closing by the essayist.

Dr. Jack Witherspoon read a paper entitled "Flagellate Diarrhea: A Chronic Dysentery Caused by the *Cereomonas Hominis*."

This paper was discussed by Drs. Jelks, Lynn, Litterer, Witherspoon, Spitz, and in closing by the essayist.

Dr. Robert Caldwell, Nashville, read a paper entitled "Intestinal Obstruction," which was discussed by Drs. Holder, Rule, Yearwood, Miller, and in closing by the essayist.

On motion, the Association adjourned until 9 a. m. Thursday.

## APRIL 10—THIRD DAY.

### MORNING SESSION.

The Association met at 9 a. m. and was called to order by Vice-President Dr. A. G. Kern, Knoxville.

Dr. Edwin B. Anderson, Chattanooga, read a paper entitled "Some Unusual Cases of Aneurysm," which was discussed by Drs. Nichol and Haskins.

Dr. John B. Haskins, Chattanooga, read a paper on "Surgery of the Gall Bladder and Biliary Duet," which was discussed by Drs. Eve, West, Baird, and in closing, by the essayist.

Dr. J. M. King, Nashville, read a paper on "Blastomycosis," which was discussed by Dr. LeRoy, and in closing by the essayist.

Dr. S. R. Miller, Knoxville, offered the following resolution, which was unanimously adopted:

"Whereas, the eighty-sixth annual meeting of the Tennessee State Medical Association has come to the end of a very profitable and in every way successful meeting;

"Resolved, That we, the visiting members of the Association, extend our sincere thanks to the Nashville Academy of Medicine and Davidson County Medical Society, its Committee of Arrangements, and each individual member for their very cordial and hospitable entertainment, and to our Secretary, Dr. Olin West, for his faithful work and untiring efforts in this difficult reconstruction period."

Secretary West announced the officers for the ensuing year which were elected by the House of Delegates. (For particulars, see proceedings of the House of Delegates.)

The newly elected President, Dr. A. F. Richards, Sparta, was escorted to the platform, and in accepting the presidency, said:

"Gentlemen of the Tennessee State Medical Association: I would, if it were possible, make you somewhat of a speech to express to you the thanks and the appreciation that I have for the great honor that has been conferred upon me, which I regard as the climax of any honor that any doctor in his state can have conferred upon him. I no doubt will be benefited; you will have to do the suffering. I love the medical profession. I have devoted my energies and the best best of my energies to the perpetuation of organized medicine in Tennessee, and in accepting this honor, I want to say to you, gentlemen, that it will ever be my effort during the present year to keep the banner of organized medicine floating aloft. So far as in my power and personally, it shall

never trail, and shall be handed to my successor without spot or blemish due to fault of mine intentionally.

"It fills me with emotion to be recognized by you gentlemen, a profession composed of the noblest men, the best men, the cleanest men, who have no superiors in the eyes of the people even. No man, even the minister, stands higher in the hearts of the people than the doctor, and as I have said, this honor conferred upon me fills me with emotion and renders me unable to speak the words that my heart feels for you today. I thank you. (Applause.)

"We have just passed through a great strain as members of the Tennessee State Medical Association, due to several causes—one, the great world war; another, the epidemic of influenza, which has not only taken the time of the profession of Tennessee, but has lost many members for us, and a great many have not yet returned to their work at home. All of this hurt our meeting last year very much. This year we feel the effects of it some. I hope by next year we will have an increased membership in the state, and that Chattanooga will have one of the biggest meetings that the Association has ever enjoyed.

"It will be my effort to appoint such committees as will be active men who are known to me—men who have at heart organized regular medicine. It will be an effort on my part to leave out all men who are in any way akin to quacks or who in any way disparage organized medicine in their home county. It will be my effort to look to the best men in the counties for the committees to do the work to maintain organized medicine. I want to ask you now to give me your hearty support and co-operation, and if you find your name on any committee, you can understand I put it there because I believe you would be a success on it. I ask the hearty co-operation of each and every one of you for a successful year. Responsibility will rest upon me in a degree, but I can bespeak for the success of the meeting of next year already because of the Secretary that we have, who has been tried and has been found equal in every particular to the occasion.

"There is not a man here, I am satisfied, who has not been benefited by attending this

meeting. At these society meetings we get a rest, diversion, and valuable information which we take back home and give the benefits of it to our patients." (Applause.)

As there was no further business to come before the meeting, on motion, the Association then adjourned to meet in Chattanooga, the second week in April, 1920.

OLIN WEST, M. D., Secretary.

## MINUTES OF HOUSE OF DELEGATES.

Nashville, Tenn., April 8, 1919.

The House of Delegates was called to order at 2 p. m. Thursday, April 8, 1919, by Dr. Richmond McKinney, President of the Association, and roll call of delegates was proceeded with.

The reading of the minutes of the last meeting was called for, and, upon motion of Dr. J. W. Sanford, the reading of the minutes was dispensed with.

A recess was then taken for five minutes for the purpose of selecting a Nominating Committee. At the conclusion of this recess the meeting was called to order by Dr. McKinney, who called for the report of the selections of the Nominating Committee.

Dr. LeRoy, for West Tennessee, reported that they had selected Dr. Wm. Sanford, of Ripley, Tenn.; Dr. O. Dulaney, of Dyersburg, and Dr. J. T. Herron, of Jackson, Tenn.

Dr. Miller, for East Tennessee, reported that they had selected Dr. Vaught from the First District, Dr. R. E. L. Smith from the Second, and Dr. T. E. Abernathy from the Third.

Dr. —————, for Middle Tennessee, reported the selection of Dr. Robert Caldwell, Nashville, Dr. W. D. Haggard, and Dr. B. F. Pyke.

The report of the Secretary was then made (see April Journal).

Dr. McKinney: By way of comment on the Secretary's exceedingly interesting report, I beg to say that it is gratifying to find that the old idea of lack of interest in the Tennessee Medical Association displayed by Memphis and Shelby County doctors has been rather refuted by this record, and the attendance of Memphis medical men at this meet-

ing is unusually good, and it is gratifying to us to see this. West Tennessee has always done its part by this Association, but I am afraid Memphis has been rather derelict in years past, but I think she is now holding up her end. What shall we do with the report of the Secretary?

It was moved, seconded, and carried that the report be adopted.

Dr. Yarbrough: Wouldn't it be a good arrangement to pass a resolution that a copy of the papers be sent in to the Secretary when the title is sent in to the Program Committee? Then, in the absence of the man, you have that material. He can write two as well as one copy, and by that means we might get some very valuable material that we might otherwise miss.

Motion seconded by Dr. J. W. Sanford.

Dr. Burns: I think that is a good idea, but I believe it would handicap the Secretary a great deal, because I know not more than ten per cent of the men would send copies; they would not prepare the copy in time to get it into the program. I know I am a creature of procrastination myself—I promised to send in a paper to this meeting, but I never finish my papers until the last minute—sometimes I finish them after I get to the meeting. It is a good suggestion, and might work, but I doubt if any considerable number of papers would be sent in.

Dr. West: Under the organic law of the Association, all papers read at the Association become the property of the Association and are required to be published in the Journal, and if a man will only do his duty under the laws of the Association, and turn the papers over to the Secretary, we will have no trouble. Besides, that is a matter for discussion under the head of new business.

Dr. McKinney: I was just going to call attention to that. I think it had better be brought in under the head of new business. Let us have the report of the Treasurer.

The Secretary stated that the Treasurer's report was a very long one, and that he had prepared a summary. On motion of Dr. Sanford, seconded and carried, the reading of this report was deferred until next morning.

Dr. West: I am going to do a thing very inconsistent and contradictory, but there is a

very important matter that I have been asked to bring before the House of Delegates, a matter which threatens the law of the State with regard to the practice of medicine, and it must be acted on immediately, or it will be too late.

Dr. McKinney: We will have to have a motion to suspend the regular order of business to take this up.

This motion was made by Dr. Yarbrough, seconded and carried.

Dr. West: A bill has been introduced into the Legislature, an Act to regulate the practice of medicine, etc., as follows:

AN ACT to regulate the practice of medicine in all counties of the State of Tennessee having a population of not less than twelve thousand and fifty and not more than twelve thousand and seventy, according to the Federal census of 1910, or any subsequent Federal census.

Section 1. Be it enacted by the General Assembly of the State of Tennessee, That it shall be lawful for any physician who has been practicing medicine for the past twenty years to continue the practice of medicine in all of its branches in all of the counties in the State of Tennessee having a population of not less than twelve thousand and fifty and not more than twelve thousand and seventy, according to the Federal census of 1910, or any subsequent census, without examination or license, as provided by Chapter 78 of the Acts of 1901, or other statutes of the State.

Section 2. Be it further enacted, That this act shall take effect from and after its passage, the public welfare requiring it.

This could apply only to Wayne County, and I am informed that this bill was drawn in the interest of one man, who has been practicing medicine for many years, and who has been stopped by the courts a number of times; and there accompanies it here a long affidavit from Dr. A. R. Reynolds. If this bill is allowed to become a law—and I am informed it has already passed in the Senate—I am sure that next year you may look for a deluge of them from every county in Tennessee, and you will have all sorts of quacks practicing medicine through the introduction and passage of local bills. I hope that the House of Delegates will see fit to send a committee to wait upon the Governor, and ask that he refuse to sign any such measure as this.

Dr. McKinney: We would like to hear a



resolution on this, that a committee be appointed.

Dr. Leroy: I make a motion that the House of Delegates, representing the Tennessee State Medical Association, protest against such a bill as this as being a palpable subterfuge, with specific designs calculated to offset the general laws of the State of Tennessee in one particular instance, that the same manifestly has no intention of being a broad public welfare measure, but is merely one designed to escape the application of a just state law in a very limited instance.

Dr. Wheat: I second that motion.

Dr. Yarbrough: I am in favor of that motion, but deep down at the bottom that law is not constitutional, and if the Legislature passes it, the State Association can have a lawsuit and knock it out.

Several Delegates: Why not stop it before we have a lawsuit? That costs money.

Dr. West: I believe very firmly that the Governor, if the matter be brought to his attention by this Association, will refuse to sign that bill. I believe he will veto it. But whatever is done must be done at once, and I would like to have added to the motion that a committee be appointed to wait upon the Governor.

Dr. McKinney: Ought not that to be a separate motion, that a committee be appointed?

Dr. LeRoy: I was going to say that the Chair appoint a committee of three to transmit this action at the earliest possible moment to the Governor of the State, with request to use his best judgment, and if it meets his best judgment, to do what he may to thwart such legislation.

Dr. Witherspoon: I think this is well enough. I think the Committee ought to be appointed and the matter attended to. I want to ask the Secretary, however, whether this has been referred to any committee from the House. I understand the Senate has passed it. Is there any committee considering it from the House? If so, is it not well to see that Committee? I am sure you can go to the Governor and get his co-operation, but I think it ought to be taken up with any House committee now considering it, and kill it in the House, if possible. We should not put too many burdens on our Governor. I

believe an appeal to the House should be made.

Dr. McKinney: Do you offer that as an amendment to Dr. LeRoy's motion?

Dr. Witherspoon: Yes, Sir.

Dr. McKinney: Do you accept that, Dr. LeRoy?

Dr. LeRoy: Yes, sir.

Dr. West: I wish to state an effort has been made to ascertain the status of this bill, but we were unable to do so—at least the gentleman that brought it to me was unable to find out.

The President: I think that committee should be authorized to act as it sees fit—if a House committee has the bill, to go to them, or, if advisable, to go to the Governor.

Dr. Miller: Would it not be well, after this House of Delegates adopts this resolution, to refer it to the General Assembly? It might carry a little more weight. Of course this House has the right to pass upon such things.

Dr. McKinney: I think that will take a lot of time that we need to dispose of papers. I think this is authoritative, anyway.

Dr. Miller: The object was to give it more weight.

Dr. LeRoy's motion, as amended by Dr. Witherspoon, was put and unanimously carried.

Dr. West: Inasmuch as activities have been so nearly suspended during the year, we are going to have an abundance of time, and as a number of the men are anxious to hear some of the papers in the Eye Section, I move that the House of Delegates suspended until 8:30 tomorrow morning.

Seconded and carried.

Dr. McKinney: I appoint on that committee Drs. LeRoy, Witherspoon and Broyles, representing the various sections of the State.

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## HOUSE OF DELEGATES OF THE TENNESSEE STATE MEDICAL ASSOCIATION.

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Wednesday Morning, April 9, 1919.

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The House of Delegates of the Tennessee State Medical Association was called to order at 8:30 a. m. this day by the Vice-President, Dr. A. G. Kern, of Knoxville.

Dr. Olin West, the Secretary: Mr. Chairman, the stenographer of the House of Delegates has been called out of the city, and for that reason I am not prepared with the minutes of yesterday's meeting. I will state, however, for the benefit of those who were not here, that all that was done yesterday afternoon was to get the names of the delegates that were present, pass the minutes of the last meeting, because they had been published in the Journal, a nominating committee was selected, and the Secretary's report was submitted and received. The House of Delegates then took up the matter of a bill pending in the Legislature enabling some man to practice medicine in an individual county. The committee conferred with the Governor, and I suppose will report it back to the House today. That brought us down to the report of the Treasurer, which is on the desk.

The Chairman: We will now take up the annual report of the Treasurer. (This report appeared in the Journal for April.)

The Secretary here read the report of the Treasurer.

The Secretary: This report is itemized, showing every individual item of receipts and individual item of expenditure, and it is submitted by the Treasurer, and is ready for the Auditing Committee, whenever that committee is appointed.

The Chairman: I will appoint the Auditing Committee: Dr. J. T. Leiper, Dr. Octavins Dulaney, Dyersburg, Dr. J. L. Jelks, Memphis.

Dr. Dulaney: Please excuse me, because I cannot possibly serve today.

Dr. Jelks: I will suggest Dr. Yarbrough. Excuse me.

The Chairman: Dr. Leiper and Dr. Yarbrough.

Dr. Wheat: Isn't it in order to have a motion? I make a motion that the Chairman appoint a committee to investigate and audit the report of the Treasurer.

The motion was duly seconded, and carried viva voce.

The Chairman: I will appoint Dr. Yarbrough, Chairman, Dr. Leiper and Dr. Wheat. Now, reports of outstanding committees: Public Policy and Legislation.

Dr. Olin West: Mr. Chairman, and gentlemen of the House: Of course you know that

the conditions have been such that practically all organizational work during the year has been suspended. We have had no active committees; it has been impossible to get anybody to serve, because all of the men who were left at home have been as busy as bees serving on exemption boards, and local boards, and every other imaginable sort of work. The consequence is that our committee work for the entire year has been almost entirely suspended. The result is that you will have no committee reports submitted this year except the Scientific Work Committee and by the Committee on Medical Defense.

Dr. J. L. Jelks, Memphis: If I may interrupt the gentleman a little bit, I know he is pretty modest. He is a modest secretary. I can say to this body that the Secretary has been a very active man in this; I don't know whether he is on a committee or not, but he has been a very active man for the medical profession, and for humanity, to my certain knowledge.

A Member: He is a committee of the whole.

Dr. Jelks: He has been one of the profession in the "hole," and a great big hole; and he has been doing a great deal of good work, not alone for the medical profession—rather against the medical profession's pocket-book, but for humanity. Thank God, we doctors always are humanitarians first, and doctors afterwards. That man has been working here almost as a pot politician, you might say. He has been running from the capitol to the Governor, and from the Governor to the individual legislators, to try to have enacted in this State some legislation for the good of humanity; asked by humanity, those who know best, asked by your Government, and pleaded for by men and women who have begged all men not to marry until they were fit, and that venereal diseases should be reported in the same manner as would be smallpox and typhoid fever, whereby we would have a check on these diseases, and know, and could let the laymen know, what a dreadful and deathly scourge venereal diseases are in our midst, in our State. Now I know that your Secretary has been doing that, gentlemen, and he is too modest to tell you so. (Applause.)

Dr. J. W. Sanford, Ripley: Mr. Chairman, and gentlemen: Is there a committee to see about medical defense? Has there been a report made on that?

The Secretary: That committee is ready, Doctor.

Dr. Sanford: Well, I don't know what to do about the bouquet Dr. Jelks threw at our Secretary; but it strikes me that we are premature about the venereal matter. I know human brutes that marry before they are well, but I do not see how we are ever going to reach them. They are not going to make it public. Whenever you undertake to make things like that public, the people are going to the drug men, for the drug stores now treat more gonorrhea, that is, mistreat more gonorrhea and syphilis, than the doctors treat. If you are going to make it a reported disease, then you will drive them away from all the help they have got.

Dr. Jelks: I want to arise to a point of order. The doctor is not in order, or he does not understand the purport of the bill; the names are not to be in the report.

The Secretary: Mr. Chairman, the Committee on Scientific Work is ready to report, and reports through this printed program. There is the report of the Committee on Scientific Work.

It was first thought, Mr. Chairman, at this meeting that we would have a very informal discussion by physicians returned from military service; it was also thought that we would have a discussion on this very subject of venereal diseases which is brought up here in the House of Delegates. It was also hoped to have a discussion informally on the subject of the work of men on the draft and exemption boards; but so many papers were offered for the program, that it was finally decided best to cut out all informal discussions and give every one an opportunity to present the papers that they had prepared for the meeting. This program is the result of the work of the Committee on Scientific Work.

The Chairman: Committee on Memorials.

The Secretary: No committee has ever been appointed on memorials.

The Chairman: The next is the Committee on Medical Defense.

The Secretary: Dr. Miller, the secretary of that committee, has his report here. He has not shown up this morning. I suppose he will be in in a few minutes.

The Chairman: We will take it up later. The report of delegates to the A. M. A.

The Secretary: Delegates to the A. M. A., Dr. A. F. Richards, of Sparta.

Dr. A. F. Richards, Sparta: Mr. Chairman and gentlemen: I have no written report to make. The delegates attended the meeting at Chicago last year. They were Dr. E. T. Newell, of Chattanooga, and myself, and about all that we could report from that meeting that would be interesting at all would be the fact that it was purely a military meeting. The entire Association seemed to be with their minds turned toward the war and the war situation, and the medical defense committees, and the advisory board members that were there, and the representatives from the national and from General Crowder's office. That was about all the important things in the Association last year. In fact, there was nothing done at this meeting that was particularly interesting to the states as states. That is about all the report that we have to make. I asked Dr. Newell, on our return, if he thought we would have a report to make, and he said that there was nothing except that it was all war, and that is about the situation. The A. M. A. meets at Atlantic City this year.

The Chairman: The report of the Councilors.

Dr. A. F. Richards, Sparta: I think Dr. Miller is chairman. He is not in this morning. We had an informal meeting yesterday, and decided that each councilor present would make his report individually. I am here with my report, if you are ready to hear it. I cannot report for any of the other districts.

The Secretary: Dr. Miller has his report here. He is usually the first man in the hall. His report is ready.

The Chairman: Report of the Trustees of the Journal.



Dr. C. J. Broyles, Johnson City: Mr. President, we have not had our meeting. We will meet today, and make our report later in the day.

The Secretary: Gentlemen, I hope that if any of you have any business of any description that is to be brought up before the House of Delegates, that you will bring it up now, because while there is very little for the House of Delegates to do this year, it is very important that any matter that ought to be brought to our attention be brought before the House this morning, so that if final action cannot be immediately taken, then there will be plenty of time to think the thing over between now and the final meeting of the House. I happen to know that one man is here with instructions from his society to ask the House for some action with respect to narcotic licenses which have been imposed upon physicians. That is a matter of some importance to the profession, I think, and it should be brought up, I think, right now, in order that it can be fully discussed.

This matter was discussed by the following members: Dr. J. L. Jelks, Memphis; Dr. Vaught; Dr. M. A. Blanton, Baileytown; Dr. J. W. Sanford, Ripley; Dr. Richmond McKinney, Memphis; Dr. I. A. McSwain, Paris; Dr. Freeman, and Dr. Leiper.

On motion by Dr. Jelks, seconded by Dr. Sanford, the discussion on the matter of narcotic licenses was ordered stricken from the record.

The Secretary: We are under the head of new business, but the Chairman of the Medical Defense Committee has come in, and he is also the Chairman of the Board of Councillors, and his reports are ready, and in order that we may expedite matters, I would suggest that the report be heard at this time.

The Chairman: I wish to say, before this is taken up, that Dr. Dulaney asks that his committee meet him here at 1 o'clock.

It was moved and seconded that the report of Dr. Miller be taken up. The motion carried.

#### REPORT OF COMMITTEE ON MEDICAL DEFENSE.

To the House of Delegates, Tennessee State Medical Association.

Mr. President and Gentlemen:

We beg to submit to you our fifth annual report.

In the calendar year 1918, the medical defense fees were paid by 784 members. This number was 66 less than the preceding year, but the reduction was small when we consider the number of men in military service. To April 1st this year, 687 have paid their defense fee, and this is a greater number than had paid by the same date last year. A detailed report of each county, for the different years, is herewith submitted in Exhibit "A."

A year ago we reported nine suits pending, and one threatened. Since that date we have had two other suits filed against our protected members one from Davidson County, and one from Knox. Several suits have been threatened, but we have advised with the threatened members, and it now appears that none of these suits will be filed.

Of the eleven suits, nine are now pending. One suit in Davidson County was annulled by death of plaintiff due to natural cause, and proved the defendant guiltyless. Another case was dropped, because the plaintiff, who claimed serious and permanent injury, was examined by an army draft board, and accepted for unlimited army service. The threatened suit was furnished advisory counsel, and the case was disposed of without suit. One suit in Washington County will be thrown out of court at next term, because plaintiff cannot secure counsel. The court postponed the case to give him another chance to secure counsel before removing the case from the docket. One case in Shelby County is now before the Court of Appeals, and decision is expected soon. This is our first case that has gone higher than the first court. Another case in Shelby is pending on demurrer, and the plaintiff has left the county. Our counsel expects a favorable decision soon. One case in Davidson County resulted in a mistrial, and is now to be tried again, and we expect a verdict for our member.

We therefore have nine suits not yet finally disposed of. The delay in some of these has been due to the absence of the defendant or witnesses, while serving with the military forces.

We want again to emphasize the value of the high professional and moral standing of our members in their several communities in deterring lawyers of high standing from bringing suits that have little or no merit, and no hope of reward, except as a compromise extorted from a guiltyless member who wishes to shun such publicity.

The moral influence of this society, and its united membership, and the fact that no compromise will be made but our last dollar, and our greatest effort freely given to protect our members' professional reputation, is a most potent influence in every community.

The secretaries of the county societies can be of further help in extending this influence in their

societies, and enlisting greater interest and enthusiasm among the members who have not yet availed themselves of the medical defense feature of the Association.

Your committee is still making a special effort in each case, to learn if any suits were instigated on the advice or innuendo of any other member of the profession, whether he be a member of the society or otherwise. If such evidence is found, it will be submitted to you, and, if you wish, published to the entire medical profession. Your committee hopes that none will be found.

Respectfully, S. R. MILLER, Chairman.

#### EXHIBIT A.

##### List of Counties, Number Paying for Medical Defense.

County.	1915.	1916.	1917.	1918.	1918.	1919.
Anderson	13	11	10	8	10	11
Bedford	15	15	15	11	11	12
Blount	2	1	4	3	4	10
Bradley	--	--	4	--	--	--
Campbell	2	1	3	--	1	1
Catron	19	10	8	7	8	5
Chester	--	--	--	--	--	--
Cocke	--	--	--	--	--	--
Coffee	--	4	7	6	6	--
Crockett	--	--	--	--	--	--
Cumberland	5	6	3	--	3	2
Davidson	129	136	156	147	155	106
Dickson	2	3	4	6	6	8
Dyer	16	23	21	15	20	22
Fayette	1	2	2	1	1	--
Franklin	5	8	--	4	4	--
Gibson	20	22	21	21	21	--
Giles	19	21	20	11	12	5
Greene	2	3	5	5	5	4
Grundy	8	8	5	4	4	2
Hamblen	9	15	17	14	15	13
Hamilton	17	20	21	22	26	24
Hardeman	1	--	--	--	--	--
Haywood	9	4	4	--	3	--
Henderson	4	3	10	7	7	5
Henry	1	3	4	5	5	4
Hickman	1	--	5	--	--	--
Jackson	12	12	8	7	8	8
Jefferson	16	16	13	13	15	4
Knox	61	68	76	62	68	89
Lake	1	3	2	--	--	--
Lauderdale	1	2	29	21	21	21
Lincoln	14	14	10	4	4	6
Loudon	1	2	1	1	1	1
Decatur	--	--	--	--	6	--
McMinn	1	--	--	--	--	--
Macon	--	4	2	6	6	7
McNairy	5	13	11	10	11	6
Madison	29	29	32	24	26	27

#### EXHIBIT A.

##### List of Counties, Number Paying for Medical Defense.

County.	1915.	1916.	1917.	1918.	1918.	1919.
Marshall	16	13	8	12	12	10
Maury	1	2	3	4	4	3
Monroe	10	11	12	11	13	13
Montgomery	6	9	10	9	9	10
Obion	7	4	2	8	8	7
Overton	8	--	6	6	7	7
Polk	--	--	--	--	--	--
Putnam	18	13	7	10	12	10
Rhea	6	9	2	3	4	3
Roane	10	7	10	8	8	8
Robertson	7	11	7	--	7	5
Rutherford	--	5	--	2	2	2
Scott	--	9	8	--	5	4
Sevier	--	--	--	2	2	--
Shelby	67	33	156	112	117	141
Smith	--	--	--	--	--	--
Stewart	1	--	--	--	--	--
Sullivan, Carter,						
Johnson	5	2	3	--	--	--
Sumner	13	9	9	12	13	19
Tipton	11	20	18	12	19	14
Unicoi	--	--	5	--	--	--
Warren	4	2	2	2	2	2
Washington	13	16	17	14	15	11
Weakley	11	13	6	9	10	8
White	14	12	12	12	13	13
Williamson	7	7	9	5	6	7
Wilson	4	5	5	5	5	2
	680	694	850	703	786	687

##### Statement of Dr. J. L. Crook, In Account With People's Savings Bank, March 30, 1918, to April 3, 1919.

Balance on hand March 30, 1918	\$1,219.55
Received May 27, 1918	153.00
Received August 2, 1918	25.00
Received December 26, 1918	38.00
Received December 31, 1918, interest	33.00
Received March 15, 1919	523.00
Received March 24, 1919	54.00
Received March 26, 1919	29.00
Received April 3, 1919	81.00
Total	\$ 2,155.55

##### Disbursements.

Total amount checks paid	\$ 366.30
Balance cash on hand April 3, 1919	1,789.25

The above statement is correct, and balance shown corresponds with our books.

SAM G. WILLIAMS,  
Assistant Cashier.

The report of the Committee on Medical Defense was ordered received and filed, upon motion of Dr. Sanford.

Dr. Olin West moved that the House of Delegates tender a vote of thanks to the Committee on Medical Defense for their good work in behalf of the members of the Association, and that this committee be continued. Motion was seconded and carried.

Dr. Miller, disussing the matter of medical defense, stated that the present seems to be the right time to have the individual county societies resolve to be responsible for the costs of suits of their own members, and to have the Committee on Medical Defense carry the name of every paid-up member as entitled to defended against alleged malpractice.

This suggestion was disussed by Dr. J. T. Leiper, who expressed himself as being in full sympathy with the purpose had in view by Dr. Miller.

Dr. J. W. Sanford entered a motion to the effect that the membership dues be fixed at three dollars. Seconded by Dr. I. A. McSwain.

Dr. Miller stated that he did not believe it would be wise to increase the membership dues.

The Chairman stated that the dues are now fixed by the by-laws, and that it would require a change in the by-laws to fix dues at three dollars.

Dr. Sanford, with the consent of his second, withdrew his motion.

It was then moved by Dr. J. T. Leiper "That the Committee on Medical Defense request each component county society to adopt resolutions whereby each society shall guarantee to the Committee on Medical Defense the sum of one dollar each year for each active member."

In seconding this motion, Dr. George R. West stated that in his opinion the county secretaries were neglectful in the matter of impressing the importance of medical defense upon individual members, and related his personal experience in regard to this matter.

Dr. I. A. McSwain thought that the House of Delegates should recommend that each

county society should collect the sum of one dollar for each active member and forward same to the Committee on Medical Defense.

The motion of Dr. Leiper was put and carried.

The following resolution, presented by Dr. R. E. L. Smith, was adopted, on his motion, after having been disussed by Drs. Jelks, Burns and West:

Whereas, Tennessee has, up until this time, made no provision for institutional care of the feeble-minded of the State; and

Whereas, there is a most urgent need of a State institution for this class of unfortunates; and

Whereas, there is now pending in both houses of the Legislature bills looking toward the creation of a State institution for feeble-minded children; therefore be it

Resolved, That the Tennessee Medical Association go on record as endorsing Senate Bill No. 627 and House Bill No. 713, urging the enactment of this law.

After the adoption of this resolution, the House of Delegates adjourned to meet at 8:30 a. m. Thursday, April 11, 1919.

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### Wednesday Afternoon.

The House of Delegates was called to order by Dr. E. T. Newell, former President, at 2:20 p. m.

The report of the Board of Councilors was called for, and Dr. S. R. Miller, chairman of the Board of Councilors, stated that it was thought best to have each Councilor report for his own district. Dr. C. P. Fox, Councilor for the First District, was absent, however, and Dr. Miller reported for him that Unicoi and Hawkins counties are not now organized, the societies in these counties having disbanded. Sevier County has been recently re-organized. Very little work has been done by the societies of this district during the last year because of war conditions.

The report for the Second Councilor District, submitted by Dr. S. R. Miller, Councilor, was as follows:



County	Legalized Practitioners in County	Members	Eligible Non-Members	Meetings in Year	Scientific Papers Read	Average attendance	New Members	Members Died	Members Living and Dropped	Serving with the Flag
Anderson	11	11	2	6	4	8	1	--	--	1
Blount	30	17	9	40	25	5	6	--	--	1
Campbell	No Report.									
Hamblen	No Report.									
Jefferson	23	10	13	2	4	10	1	--	--	--
Loudon	16	9	16	8	2	5	--	--	2	--
Knox	160	133	18	50	40	20	18	1	2	18
Roane	31	16	12	6	3	7	--	1	5	5
Scott	No Report.									
Union	Not Organized.									

Dr. A. F. Richards submitted his report as Councilor of the Third Councilor District, as follows:

Gentlemen of the House of Delegates, State Medical Association: I beg to submit the following report from Third Councilor District.

Cards were sent to the secretary of each organized county and a report asked for. The following counties responded: Warren, Grundy, Hamilton, Polk, White and Franklin—only six out of nine organized counties.

The reports of each county as it was furnished me accompanies this report.

The short reports and small attendance, and lack of meetings are due to two causes—the war and the “flu,” either of which was amply sufficient to break up an organization of most any kind.

I would advise that since the war is over and our men are getting back to the normal, we have each councilor district canvassed by the councilor of the district during the present year and see if we cannot bring the membership up to what it should be.

Respectfully, A. F. RICHARDS,  
Councilor, Third District.

Councilors for the Fourth, Fifth and Sixth Councilor Districts were absent, and the Sec-

retary reported the facts relative to organization in the counties of these districts and the number of members enrolled in each county during the year 1918.

Dr. M. A. Beasley, Councilor for the Seventh Councilor District, reported for Maury County only, showing an enrollment of thirty-two members out of forty-four physicians in the county. Seven physicians in the county who are eligible are not members of the county society. New member reported, two; dropped from the roll, one; number serving in army, three; number of meetings during year, eight; average attendance, nine; scientific papers read, seven; number members deceased, none. The Secretary reported the number of counties in this district unorganized and the number of members enrolled in each county society for 1918.

The report of Dr. A. B. Dancy, Councilor for the Eighth Councilor District, was submitted by Dr. Miller.

Dr. J. W. Sanford, Councilor for the Ninth Councilor District, submitted his report, as follows:

The report of Dr. W. T. Black, Councilor for the Tenth Councilor District, was submitted by Dr. Miller, as follows:

COUNTY.	Physicians in County	Number in Society	New Members	Died During Year	Dropped from Roll	In Military Service	Average Attendance	Scientific Papers	Eligible Non-Members	Meetings Last Year
<b>Third Councilor District.</b>										
Franklin	20	10	1	--	1	1	--	--	--	--
Grunday	7	5	--	--	--	1	5	5	5	--
White	15	13	2	--	--	2	8	6	5	--
Hamilton	--	133	--	5	--	40	52	28	--	--
Warren	--	*15	--	--	--	--	--	--	--	--
Polk	--	11	--	--	--	--	6	--	--	--
<b>Eighth Councilor District.</b>										
Henderson	26	22	--	--	--	2	10	15	25	4
McNairy	25	13	13	--	5	--	4	6	--	--
Carroll	35	11	--	1	10	2	5	9	8	20
Madison	50	34	2	1	--	5	26	12	20	4
Chester	9	7	--	--	0	1	4	6	--	--
Decatur	11	9	--	1	--	--	11	6	22	2
Henry	27	19	--	--	--	3	--	--	--	4
Hardin	22	10	--	--	--	--	3	6	4	11
<b>Ninth Councilor District.</b>										
Haywood	18	3	--	--	--	2	2	5	--	5
Lauderdale	35	30	8	--	--	2	10	10	--	--
Crockett	20	18	--	--	--	1	1	7	--	2
Dyer	38	38	5	1	1	4	--	--	--	--
Obion	26	23	--	--	3	2	4	7	1	--
Gibson	50	20	--	--	3	3	1	12	--	10
<b>Tenth Councilor District.</b>										
Hardeman	20	11	--	--	2	2	6	8	12	--
Tipton	40	20	2	--	--	3	3	12	20	10
Shelby	350	212	--	6	3	33	20	50	75	--

\*Unpaid at time of report.

Dr. Miller, Chairman of the Board of Councilors, addressed the House and told of the difficulties encountered by councilors in securing reports.

Dr. W. Britt Burns asked how much attention individual councilors paid to the duties of their offices, and was replied to by Dr. A. F. Richards and Dr. J. W. Sanford. Further discussion of the work of councilors was entered into by Drs. West, Miller and Sanford, and Dr. C. H. Johnston discussed the matter of county organization and told of the methods employed in Henderson County for the maintenance of an active medical society.

Dr. C. J. Broyles, former President, took the chair.

The report of the Board of Trustees was called for and the Secretary was asked to report for the Board. This report showed that

the affairs of the Journal are in good shape insofar as finances are concerned, but that great difficulty had been encountered in securing matter for publication. This has been due to the absence of the large number of members in army service and to the great demands made upon the time of the members at home. For several months the editor has not known where material for the next succeeding issue of the Journal would be secured. The advertising income for 1918 was slightly less than for 1917. The bulk of the advertising in the Journal is secured through the Co-operative Medical Advertising Bureau of the American Medical Association. It is important that our members should buy from the advertisers in the Journal, all of whom are dependable concerns.

Dr. J. W. Sanford offered a motion to the effect that no papers read before other associations or published in other medical journals should be published in the Journal of the Tennessee State Medical Association, except papers read at meetings of county medical societies or the sectional societies of the state. Seconded by Dr. R. E. L. Smith. Motion carried.

**Thursday Morning, April 11, 1919.**

The House of Delegates was called to order by Dr. A. G. Kern, Vice-President, at 9:20 a. m., Thursday, April 11, 1919.

The report of the Committee on Nominations was made by Dr. W. D. Haggard, chairman of the committee, as follows:

To the House of Delegates:

The following nominations are respectfully submitted:

For President, the names of Dr. W. C. Bilbro, of Murfreesboro; Dr. A. F. Richards, of Sparta, and Dr. G. W. Moody, of Shelbyville.

For Vice-Presidents: For Middle Tennessee, Dr. A. W. Harris, of Nashville; for West Tennessee, Dr. N. S. Walker, of Dyersburg; for East Tennessee, Dr. J. C. Brooks, of Chattanooga.

For Trustee of the Journal, Dr. Hermon Hawkins, of Jackson.

For Councillors: For the Second District, Dr. S. R. Miller, of Knoxville; for the Fourth District, Dr. Z. L. Shipley, of Cookeville; for the Sixth District, Dr. W. C. Dixon, of Nashville; for the Eighth District, Dr. A. B. Dancy, of Jackson; for the Tenth District, Dr. W. T. Black, of Memphis.

For Delegate to the American Medical Association, Dr. L. A. Yarbrough, of Covington; for Alternate Delegate, Dr. J. B. Blue, of Memphis.

For Secretary: Dr. Olin West, of Nashville.

Submitted by

W. D. HAGGARD, Chairman;

J. T. HERRON, Secretary.

Nominating Committee.

Upon motion of Dr. George R. West, the election of officers was entered into.

Dr. A. F. Richards, having received a majority of the votes cast, was declared elected President.

Upon motion of Dr. George R. West, the Secretary was instructed to cast the vote of the House of Delegates for Dr. A. W. Harris for Vice-President for Middle Tennessee, Dr. N. S. Walker for Vice-President for West Tennessee, and Dr. J. C. Brooks for Vice-President for East Tennessee.

The Secretary cast the vote of the House of Delegates as instructed, and Drs. A. W. Harris, N. S. Walker, and J. C. Brooks were declared elected Vice-Presidents for their respective divisions of the State.

Upon motion of Dr. R. E. L. Smith, duly seconded, and carried, the Secretary cast the unanimous vote of the House of Delegates for Dr. Hermon Hawkins for Trustee of the Journal, and Dr. Hawkins was declared elected.

Upon motion of Dr. A. G. Nichol, the Secretary was instructed to cast the unanimous vote of the House of Delegates for the nominations for Councillors, as follows: Dr. S. R. Miller, of Knoxville, for Councillor for the Second District; Dr. Z. L. Shipley, for Councillor for the Fourth District; Dr. W. C. Dixon, of Nashville, for Councillor for the Sixth District; Dr. A. B. Dancy, of Jackson, for Councillor for the Eighth District; and Dr. W. T. Black, of Memphis, for Councillor for the Tenth District. The Secretary, having cast the vote of the House of Delegates as instructed, the above named Councillors were declared elected.

Upon motion of Dr. Nichol, duly seconded and carried, the Secretary cast the unanimous vote of the House of Delegates for Dr. A. L. Yarbrough, of Covington, for Delegate to the American Medical Association, and for Dr. J. B. Blue, of Memphis, as Alternate Delegate. Dr. Yarbrough was thereupon declared elected Delegate and Dr. Blue was declared elected Alternate Delegate for 1919-20.

Upon motion of Dr. Nichol, the Chairman was instructed to cast the vote of the House of Delegates for Dr. Olin West, of Nashville, for Secretary. Dr. A. G. Kern, Chairman, cast the vote of the House for Dr. West for Secretary, and he was declared elected.

Dr. T. E. Abernathy, of Chattanooga, presented the invitation of the Chattanooga Academy of Medicine and the Hamilton County Medical Society to hold the next annual meeting of the Tennessee State Medical As-



sociation at Chattanooga, and placed Chattanooga in nomination as the place of meeting for 1920. This motion was seconded by Dr. George R. West, of Chattanooga.

Chattanooga was unanimously chosen as the place of meeting for 1920.

The House of Delegates adjourned.

OLIN WEST, Secretary.

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### OFFICIAL CALL.

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*To the Officers, Fellows and Members of the American Medical Association:*

The seventieth annual session of the American Medical Association will be held at Atlantic City, N. J., from Monday, June 9, to Friday, June 13, 1919.

The House of Delegates will convene Monday, June 9.

The Scientific Assembly will open with the general meeting on Tuesday evening, June 10, continuing in the meetings of the sections on the three following days.

ARTHUR DEAN BEVAN, *President*.

HUBERT WORK,

*Speaker, House of Delegates.*

Attest: ALEXANDER R. CRAIG, *Secretary*.  
Chicago, Ill., April 26.

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### ADDRESS OF THE CHAIRMAN OF THE SECTION OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, OF TENNESSEE STATE MEDICAL ASSOCIATION, AT NASHVILLE, TENN., APRIL 9, 1919.

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By Hilliard Wood, M. D.,  
Nashville.

With your permission, I wish to discuss some of the points more or less unusual in connection with infection of the middle ear and mastoid cells. The usual route of infection through the Eustachian tube and the middle ear, mastoid antrum and cells, and thence to the cranium and its contents, is so commonly recognized that exceptions are liable to be overlooked. While the question whether we may have a mastoiditis without

a preceding otitis media may be open to discussion, yet I clearly believe that we do have mastoiditis without any preceding or accompanying otitis media having been recognized. It is true that in some of these cases the infection is of a low grade while in its development, and the otitis media so gradual in its onset and development, that it does not attract the patient's attention, and, moreover, as no perforation of the drum may occur, he, of course, has no discharge, and hence when seen some time afterwards, the presence of this low form of otitis may be difficult or impossible to demonstrate. Moreover, the otitis may be in a measure subsiding while the mastoiditis progresses. I have seen all of the above points demonstrated in practice. Therefore the absence of any distinct knowledge of a past otitis does not, in my opinion, contraindicate a diagnosis of mastoiditis. I think this is important, because in the absence of any otitis media we are prone to push aside a diagnosis of mastoiditis.

I believe there are many cases, more than are usually supposed, of infection and supuration of the superficial mastoid cells, without any pathology in the antrum that can be demonstrated during operation. In fact, I think every one who has operated often for mastoiditis in its early stages has been impressed by the number of small, discrete abscesses scattered in various parts through the superficial cells where there is no demonstrable connection with the antrum. Furthermore, I think every operator of experience must have seen a number of cases of mastoid suppuration in which the superficial cells were converted into one common pus cavity in which there was no demonstrable connection with the antrum, and, in fact, in which the pus cavity was separated from the antrum by perfectly normal bone. This would seem to me to indicate that the infection in these cases had reached the superficial cells without going through the antrum. This fact is spoken of by Politzer, who advises in such acute superficial abscesses where there are no brain symptoms, and where the abscess is separated from the antrum by healthy bone with no fistulous tract intervening, that the antrum itself should not be opened, as to do

so would simply prolong the period of recovery without any additional advantage to the patient. This idea of not opening the antrum in all of the acute abscesses appeared rather new to me, and for the last five years I have observed with some care to determine whether Politzer's position was correct, and I have found that it almost invariably is.

In the early stages of mastoiditis it has been my observation that the abscesses of the mastoid are multiple, small and separate, and if the mastoid is opened up at this stage these small pus pockets will be found in various parts of the superficial mastoid cells, separated by normal bone from neighboring pus pockets. In operating in this early stage one is liable to overlook some of these separate pockets, as there is nothing to indicate their location, and when so overlooked and left unopened they continue to cause symptoms until they rupture into the common wound cavity and drain themselves. This, to my mind, is one of the objections that can be urged against early operation in mastoiditis.

One is often impressed by the seeming comparative immunity of the dura mater to infection, for it is often found exposed on the deep or posterior surface of the abscess cavity without any symptoms of meningeal irritation having been present. In fact, in my experience such exposure of the dura has not essentially added to the gravity of the prognosis. There is, however, a most marked contrast in this respect between the dura mater and the pia mater. Infection of the latter has, in my opinion, been uniformly fatal.

There are three surfaces through which pus in the mastoid can perforate—viz.: externally, under the periosteum; internally, towards the dura; and forward, through the posterior bony wall of the external auditory meatus, where it collects between the bony and membranous canal, and perforating the latter, discharges through the external auditory canal. Of course, perforations externally and towards the dura are the more common, but I have seen perforations in all three surfaces in one and the same patient. Perforations of the bony canal, however, are in my experience the least common.

Of the complications I wish to speak more especially of meningitis—I mean purulent

lepto-meningitis of otitic origin. We more commonly associate this complication with mastoid suppuration, and yet we all know that the infection of the meninges can just as easily go through the tegmen of the attic as through the tegmen of the mastoid antrum. In fact, these two cavities have a common roof, and the infection can go through one portion of it as easily as through another. Recently I saw a case of otitic meningitis in which there was no infection of the mastoid antrum and cells, as demonstrated by operation. I think this fact is important, because we are so liable to feel that we are not in danger of meningitis unless we have a mastoiditis, but the fact is we can have a fatal meningitis without ever having a mastoiditis; so that the absence of a mastoiditis does not of itself protect the patient against a fatal meningitis. I think this fact is one of the strong arguments in favor of a free and early paracentesis of the drum in all cases of suppurative otitis media. My experience with purulent lepto-meningitis of otitic origin has been unfavorable to the last degree, in that every one that I have had has terminated fatally, and that usually within from twenty-four to seventy-two hours. Some of these cases I have opened and drained without apparent benefit. In my observation, meningitis is not only the most fatal, but also the most frequent of the intracranial complications of otitic origin. I regard the two other major complications—viz., sinus thrombosis and brain abscess—as not only less frequent, but far more amenable to treatment.

Blood stream infection has been present in a number of my cases, characterized by septic chart, by arthritis, by endocarditis, and at times by multiple abscesses. We usually associate this blood stream infection with sinus thrombosis, but here again I wish to call attention to the fact that we have all the manifestations of infection just mentioned without a thrombosis of the lateral sinus. This I have demonstrated in two cases of my own, one of them recently. In this case ligation of the internal jugular vein was done, and the sinus exposed, opened and found normal. Notwithstanding the absence of any demonstrable thrombosis of the sinus, the ligation of the internal jugular vein apparently con-

trolled the infection, and both patients recovered. In this connection I wish to call attention to the point mentioned by Kerrison, and which I have in two cases observed—viz., that in blood stream infection associated with mastoid suppuration, ligation of the internal jugular vein is often a wise procedure, even in the absence of thrombosis of the lateral sinus. I believe that it localizes to a degree the infection, and in the two cases in which I have done it, the patients recovered, and in my judgment their recovery was largely due to the ligation of the internal jugular vein.

The time required from the beginning of an otitis media for the development of a mastoiditis and intracranial complication is extremely variable. While usually some several weeks or even a few months may elapse, yet on the other hand I have seen recently two patients with mastoid abscess in seven days from the first pain in the ear, and in one of these on the sixth day from the beginning of the ear ache, the patient died with mastoid suppuration complicated with meningitis. The great variability of time for the development of mastoiditis and intracranial complication, then, is an element often of very little value to us in making out our diagnosis and prognosis. One patient on whom I recently operated had an earache; three days later, pain in the mastoid; four days later, a well developed mastoid abscess, as proven by operation. Another patient had pain in the ear, and five days later mastoid operation with pus in the mastoid.

In the diagnosis of mastoiditis, there are a few signs and symptoms which I think are cardinal. Pain in the mastoid has been present in all of my cases, but pain in the mastoid, of course, does not alone diagnose mastoiditis, as it may be due to rheumatism, or reflex pain, or possibly hysteria. Pain in the mastoid is practically always associated with tenderness on pressure. I regard tenderness on pressure as of more importance than pain, and, in fact, one of the most dependable of all symptoms of mastoiditis. Redness and swelling over the mastoid are, I think, of least importance, as they merely indicate mastoid periostitis, which, while usually due to mastoiditis, yet may be due to various other causes, such as furuncles in the

auditory canal. Leukocytosis is, of course, valuable in trying to determine the presence of pus, and a blood count should always be made; but the blood count may be normal in cases of sclerosed mastoid in which there is no pus, but in which cases operation is clearly indicated for the relief of the pain. Roentgenograms, when properly made and interpreted, are of great value. There are some cases that are so plain that an x-ray examination is superfluous, but there is a large number of cases which, from a diagnostic standpoint, might be called border line cases, in which the diagnosis is debatable. In these cases of questionable diagnosis, I think we should always avail ourselves of the advantage of the x-ray. In my opinion, when the x-ray plate shows a normal mastoid, an operation is contra-indicated. On the other hand, when a cloud is shown, it does not always indicate an abscess nor call for a mastoid operation. These clouds may be due to mastoid periostitis, due to causes other than mastoiditis, or due to old, sclerosed mastoids, such as I have several times seen, and in which operation will not be indicated. I think roentgenograms in these cases are exceedingly valuable, and in doubtful cases should always be had, but like all other laboratory evidences, they are not infallible, and should always be construed in the light of the clinical evidence, and I would not feel justified in operating on any mastoid, no difference what the x-ray showed, in the absence of a fairly well developed clinical history with clinical findings. In this connection, it is well, when one has what seems to be a developing mastoiditis, to have x-ray plates made, and then repeated after a few days, so that by comparison we can get some idea as to the progress of the pathology.

Of the various danger symptoms accompanying otitic and mastoid infection, I will mention only three. Two of these, headache and vomiting, are the prodromal symptoms of developing meningitis, and are, in my opinion, of the gravest omen. Nystagmus indicates labyrinthitis, and is likewise of great gravity, as in two such cases the infection seemingly passed through the internal auditory canal to the meninges, and was followed by fatal meningitis.



I believe that many a case of incipient mastoiditis is cured without opening the mastoid cells. I have seen beneficial effects following a paracentesis of the drum, and the application for twenty-four to forty-eight hours of cold to the mastoid. In fact, I think such remedies should always be used if we see the patient in the beginning of the mastoid symptoms. Some years ago Ballenger called attention to the wisdom of removing diseased tonsils and adenoid when doing a mastoid operation. His position was so logical that I have followed this practice, and have had the best results.

The blood clot method in closing the mastoid wound has been advocated by some, and encouraged and discussed by many. I have used it in some ten or twelve cases, with three happy results, but in the remainder it failed. In my judgment, it is of questionable propriety, for if it does not succeed, breaking down of the clot and the formation of pus pent up under the closed integument subjects the patient to a new source of infection. From my limited experience, therefore, the wisdom of the blood clot method is doubtful.

During the season just passed, I have been unfortunate enough to lose five patients from otitic infection. One of these died with blood stream infection, characterized by septic chart, arthritis, endocarditis, etc., and the other four died with purulent meningitis.

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### THE DOPER AND THE DOCTOR.\*

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BY S. T. HARRISON, M. D.  
Lewisburg.

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I do not think that I need to offer an apology for bringing this subject before you. I have no formal paper to present, and my remarks will be entirely extemporaneous.

The doper and the doctor are closely connected. In fact, if it were not for the doper

doctor, we would not have as much dope given to patients as there has been in the past. I believe that a doctor ought to be subjected to criminal prosecution who allows a patient to get well as a doper. When it comes to incurable diseases, such as malignant diseases, tuberculosis, and other things, it may be justifiable to convert such sufferers into dopers, so that their lives may be made pleasant until they go to their resting place. When a patient recovers and becomes a doper, some doctor has been responsible for his or her misfortune. The careless doctor who, on the slightest provocation, takes out his syringe and injects one-quarter of a grain of morphia on every occasion, is responsible for widespread doping. I think morphia and cocaine are the most terrible in their effects upon the human family. In every community there is a class of dopers, and they do not stay in that community very long. They migrate, they travel, they go from one town to another. They say, "I want a dose of this or that, or I'll die if I don't get it," and you will find such people all over the land.

We should strive to get at the cause of the trouble before we speak of the cure. The careless doctor is responsible for the doper. I wish you could all feel that. A patient may be able to go for a week or a month without it being necessary to give morphine, and does unless some neighborly brother in the same business comes along and gives him a dose. If the physician injects a dose of morphine into him he goes on doping and doping, and thinks that so much is desirable.

Since the doctor is a factor in producing a doper, he ought to become a factor in trying to cure it. The nation and state have passed laws, but a fee is exacted to give dope to patients. The laws are strenuous, but they are not a success yet. These dopers will try to secure dope from some one, and they go on and on. Doping is not a contagious disease, not an infectious trouble, but it is spread by association. These people will get dope just as you get whisky in Nashville. They get it because they want it.

Then another great assistance to them is the drug man. He comes in with his pecuniary interest and supplies the dope.

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\* Read at Annual Meeting of Tennessee State Medical Association, at Nashville, April, 1919.

Can we control this practice, or habit? As soon as the Harrison law was enacted and put into effect in our county seat we reduced the number of dopers seventy-five per cent. Every doctor in that town reports that he has caused all his dopers to quit.

I recall one woman with a fibroid tumor of the uterus who was very irritable and disagreeable without dope. By reason of careful treatment adopted, that woman quit taking dope entirely, although she had been doing it for twenty years. If you have a patient who is a dope fiend and tell him that you can never do him any good by giving him dope, you may have some influence in getting him to quit. But when you have got sympathizers in men or women and can gain their confidence by saying you are going to help them, you can help every one of them by gradually reducing the doses. If a patient comes to me and wants dope, I say to him, "If you will let me help you, I will make you quit taking this dope;" and, having satisfied him, he will come back and thank me, saying that he is as well as he ever was.

This is not a small matter. Hardly a day or week passes that some stranger does not come to me and say, "I must have cocaine or morphine; I am going to die if I do not get it." You cannot deal with that traveling class as long as you give them something. Any practitioner of medicine ought to be prosecuted for criminal practice who makes a doper. He ought to be prosecuted if he takes two dollars for writing a prescription without any regard of the normal responsibility for the man or woman he is prescribing for. If we could feel we are criminals when we perpetuate this terrible habit with poor human beings, if we have got any conscience that will come to our relief, we will join the sanitary army. Sanitation hits this trouble. It is a large question, and every doctor in this state has much to do with it. We doctors have been the cause of nine-tenths of the doping in our land, and are the guilty parties, and we should henceforth rise up and do everything we can to regulate this evil. I want every doctor who sees daily these dopers to realize that he has got a great responsibility resting on his shoulders, and he should strive to get these people to quit the practice of taking dope.

Some one has said that if you tell a doper to come tomorrow and the next day, and you will gradually reduce the doses, he will find out that he has been taking ten or twenty grains a day, and he says, "I can quit," and they nearly all quit, if they are worth saving. Some of them are dangerous people and are determined to continue taking dope, and that if one reason why we cannot do anything with them. However, they are in the minority. We can cure most of them, and the responsibility rests on us to do it.

I beg the pardon of the Association for not presenting a formal paper.

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#### DISCUSSION.

Dr. J. J. Waller, Oliver Springs: Dr. Hardison need not apologize for not having written a paper, because he has deliberately hit the nail square on the head.

I have thought along this line heretofore, of why it is we have to be handicapped and hampered in our use of narcotics through the blunders and weaknesses of so many practitioners. This Harrison law is a rather troublesome, burdensome thing. I do not like to be bothered with it. I never made a dope fiend in my life, but on account of many being so lax in their use of narcotics, the whole profession has got to suffer from the narcotic law. I wish in some way we could make this responsibility rest on the men who instituted it. There are very rare instances in which we need to make a dope fiend. In people suffering from malignant disease, as the doctor pointed out, it makes but little difference. But the use of narcotics is largely confined to a few cases, and in most of them a dose or two will tide the patients over a painful emergency. We should try to get to the point where we can carry them along without the use of opium. Who ever cured a case with opium? Except to tide patients over a painful period or very distressing condition, it has no place in the treatment of chronic troubles. We find it very easy to make a dope fiend. It is surprising how easy some people become addicted to the use of drugs. Some of them can be made dope fiends in three or four days, and we have got to be very careful in handling all narcotics.

We ought to study our pathology, our symptomatology, and try to handle our cases without having to use cocaine. If we do not know enough to do that, we do not know enough to practice medicine. Opium smothers pain and leaves the pathology worse. Because a few doctors have sinned in this respect, the whole profession has to bear the blame.

I have been just a little bit puzzled and bothered. The first of last July I got narcotic privileges that will last until the first of next July, and have paid for it. Here comes along another tax, and I toon it upon myself to investigate this matter of a second tax. I had to pay another dollar and a half in order to use narcotics up to the first of July. That makes two dollars for the privilege from the first of January to the first of July of using narcotics. At that rate, it would be four dollars a year, or two or three taxes instead of one. Why is it, and how is it, we are bothered with this thing?

Dr. Margaret O. Davis, Nashville: I will read some extracts from a man who has had greater experience in this line than I have had. I will read what Dr. Bishop, of the New York Polyclinic, says in regard to narcotic drug addiction. (Dr. Davis then read.)

Dr. William K. Sheddan, Columbia: I believe, this is the first time I can agree with some of the things that Dr. Hardison has said. I fully agree with him in the statement he has made that nine out of ten of the morphine fiend addicts are made by doctors. However, I do not believe that to be the case with cocaine. We find many cocaine addicts among the negro population. As they are now largely deprived of alcohol, the negroes have taken up the use of cocaine as a substitute.

If you pick up the book of Austin Flint, of 1870, on the "Practice of Medicine," you will find described therein three remedies—opium, alcohol, and morphine. I have been called in a neighborhood where the ardent followers of Flint went crazy over the use of opiates, which were given almost indiscriminately at that time hypodermically, although previous to that time opium was given as a new drug, or the fluid preparation of it. Then when I moved to the town in which I live, there were twenty-two addicts in the best families in that town, and I know that every single one of those individuals had contracted the habit or had become addicted to the use of morphine through the hypodermic administration of the drug by their physician. I want to agree with Dr. Hardison about that. The evil was widespread then, but it is not so widespread now. We do not see as many addicts as we did formerly.

A few years ago Lawson Tait began a crusade against the use of opium, and Dr. Joseph Price, of Philadelphia, at about the same time, began a crusade against the excessive use of morphine. Dr. Price took great pride in saying that there was not a grain of morphine in his hospital. On account of the splendid work of those men and their followers, morphine is not today given so indiscriminately as it was thirty years ago, and any man who was practicing medicine at that time realizes the truth of that statement. The evil is not as widespread.

I want to disagree with Dr. Hardison as to the cure of these addicts. I have never been able to relieve one in private private or in a private home, and there is but one way to cure them, and that is to cut them free from the drug, and some of them are cured in that way. You cannot do anything with them in their private homes. Let them take the drug in a solution of magnesia in plain water and keep it up until gradually they get away from it. Some of them, if they find they are not getting opiates, will go back to the habit again. You cannot very well cure them outside of institutions. I have tried conscientiously to do so, but have been unable to get these patients to rid themselves of this bad habit.

Dr. Hardison (closing): It would be a good thing if we could get druggists not to refill prescriptions for this dope, but we cannot do much unless the whole medical profession co-operates.

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### THE MEN WHO DIDN'T GO—BY ONE OF THEM.\*

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BY HERMON HAWKINS, M. D.,  
Jackson.

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When this Government declared war, on April 6, 1917, nearly everything necessary to create a big army was lacking. Among so many requirements, perhaps none was of more importance than an adequate supply of doctors in active military service. An S. O. S. call was immediately sent out to the medical profession, and every graduate up to 55 years of age heard it as a personal summons. Some over 55 thought an exception would be made in their case; that the Government would be glad to take them, in view of their wide experience in medical matters, matured judgment, high standing and influence.

Many of us—perhaps the larger part—had but vague ideas of what military service really meant. We rather looked on it as a broader field for the extension of the general work we were accustomed to in civil practice, with some special requirements as to camp hygiene. If we ever got to actual fighting, naturally surgery would constitute most of the work to be done.

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\* Read at Annual Meeting of Tennessee State Medical Association, at Nashville, April, 1919.



There might have been a hazy idea of what military service would require of the doctor, nevertheless very definite opinions were entertained about some parts of it. Every fellow visualized himself in well-fitting uniform, a special auto at his command, living in comfort—a kind of sublimated head of army hospital work, with his time condescendingly arranged so that the higher officers would not have to wait too long when seeking a conference with him as to how the camp should be conducted. Naturally he would need no special instructions, rather would he be the teacher, knowing—as he felt he did—all of medicine and surgery necessary, and more.

This charming vision even included his home-coming, after the war was over. He saw himself the leading authority in his community; the first to be called in desperate cases. Perhaps, if his profitable consultation would allow the time, he might write a book on surgery, like Dr. Wm. Keen, of the Union Army, or Dr. John A. Wyeth, who rode with Forrest. But when the examining officer came around, he strangely ignored our self-estimates, required us to suffer the indignity of stripping, and while thus naked being weighed, measured and examined as though we were of no more importance than a recruit for the ranks. This was the first jolt.

Later, after some had received their commissions, gone to the camps, and found time to write back what they had to do, we concluded maybe the examining officer who turned us down knew his business better than we had thought. Departures increased as men were needed. With a little pressure here and there, appeals to patriotism and professional pride, with an occasional veiled hint of possible draft of the medical profession, the supply kept pace with army necessities.

It is to the lasting honor of the profession that this was the only absolutely necessary arm of the service obtained solely by means of the volunteer system.

“The men who didn’t go,” whether because they could but would not, or would but could not, met in their county societies and officially bade their departing brethren Godspeed, and passed resolutions to take care of their interests while away by paying them a given per-

centage of the money collected from their patrons, remitted their county society dues, paid their annual dues to the state society, and generally did the proper thing in every way. No doubt these generous resolutions have been kept. Thus the division was made.

“Many were called, but few were chosen.” We are thoroughly persuaded that those who went entered a strenuous life, of which it is not my place to speak. It may also be affirmed that those who remained were not altogether idle. Each man found that he was getting calls from families that he had never practiced for before. In thus closing the gaps, some who had felt that they were behind in the race, found themselves in the limelight again.

Vacancies in health offices had to be filled; insurance companies made new appointments on their lists of local examiners, and in addition to these strictly professional duties, the doctor felt the pressing demands of the times, in common with all our citizenship.

Drives to finance the Red Cross, Y. M. C. A., and war work of every kind were started. Elaborate machinery was set in motion to obtain a wide sale of Liberty Bonds and War Savings Stamps among the people. The busy man of medicine was a shining mark for solicitors, and was persuaded to join various teams formed to campaign the country and make educational speeches whenever a crowd could be collected. He even joined the “Four-Minute Men” and took his turn along with the rest of the vaudeville attractions in the theaters, between films in picture shows, in churches or at the dinner hour in the factories.

The Selective Service Act was passed May 18, 1918, and the Government immediately constructed the vast machinery which ultimately accomplished the stupendous task of registering and classifying over twenty-four million men. The doctors remaining at home were an indispensable part of this machinery. One hundred and fifty-five were on district boards; at least four thousand six hundred and forty-eight were on local boards, and nine thousand five hundred and seventy-seven were on medical advisory boards—a total of fourteen thousand three hundred and eighty, not count-

ing volunteers called on to assist from time to time.

When the armistice went into effect, November 11, 1918, three million, two hundred and eighty thousand men had been physically examined. This does not include one million three hundred thousand volunteers, an unknown proportion of whom were examined by civil physicians.

This is not all. Nearly every community had its local company of "home guards," or some form of military organization outside the regular service, and the doctors were called on to examine each man joining, together with every applicant for Y. M. C. A. service. The Provost Marshal-General, in his official report to the Secretary of War, dated December 20, 1918, pays a magnificent tribute to the medical profession and the work of the local boards, which he designated as "the corner stone" of the selective service. Of the medical advisory boards, he says in part: "It is keenly appreciated that their duties were an additional burden to busy lives, rendered without compensation, and not publicly recognized either by uniform or rank or the applause of the multitude. To them whose services were so cheerfully, assiduously, and efficiently rendered, the nation owes a debt of gratitude."

At first the man appointed as examiner on the local board received it as a specific honor. Though a little shy of what might be required of him, he complacently accepted the laudatory notice of his local paper as justly due. Now that it is all over, some may feel proud of it, and they have a right to be proud of the service rendered, but I venture the assertion that no man could wish any greater punishment to his worst enemy than to have him serve for eighteen months as examiner for a local board.

The machinery of medical advisory boards was started later. But when in motion, the agony was simply extended to include the membership of these boards. Each manual of instructions was difficult to interpret correctly, and the amended instructions, received so frequently, failed to make them much plainer.

About one year ago the plan of sending classes—composed of a representative from each board—to camps for special instructions,

was put into practice, and for the first time we fully appreciated just what the camps wanted, and what use the Government intended to make of the physical classifications. Unfortunately, much work had already been done, but from that time on, we had plain sailing. Manual No. 75 was issued in August. It was sent to the boards before the camps, resulting in some confusion for a time, but as soon as both boards and camps were using the same manual, real harmony of action was established. Up to this time the astonishing fact was not that so many were rejected at the camps, but so few.

We were all in dead earnest, doing our best. While not sure just where we were going, we knew well we were on the way. To look back now, from a medical point of view, the humor of the situation is very apparent, and will be more in evidence later until the time comes—if, indeed, it has not already come—when criticism without a smile in it will be but little regarded. The fact is, the selective service was one of the monumental accomplishments of this Government, and every man who had a part in it will eventually take pride in the fact. We felt we were veterans equal to any task we might be called on to perform, when the influenza epidemic spread over the state. A great deal of ink has been spilled already on this subject, and the end is not yet. Much of it might have been saved, in so far as it was intended to teach us about influenza. I have nothing to say about the disease, but a little about the part "the men who didn't go" took in the epidemic.

My hat is off to those who went, no matter how or where they served. Nothing we can say or do is good enough to meet the just deserts of the lowliest doughboy of them all. Their deeds of heroism and sacrifice are recorded in the hearts of humanity, never to be forgotten until our race shall have perished from the earth. But the closing months of the year 1918 demonstrated among the "men who didn't go" a spirit of self-sacrifice, of courage and endurance akin to that exhibited upon the war-torn fields of France. No shrieking shells, exploding bombs nor circling fighting planes characterized this fight. The roar of artillery was absent; there were no torn limbs nor

bloody wounds to operate upon: nevertheless, it was a fight grim and deadly. The fatalities now number 300,000, and the list is not yet complete. Caught unawares and unprepared, without adequate hospital room or service, without nurses and facilities of every kind; without even the comfort of touching elbows with his professional associates, faced with a panic-stricken community, begging for help far beyond his physical ability to supply, yet undismayed, the man who stayed worked to the limit of his endurance to alleviate the distress around him. Death faced him ever hour, still he fought doggedly alone and unsupported, with no thought of surrender. The war with Germany was fought across the seas, but down in his secret heart he feels that, though he didn't go, he knows something of the sufferings of those who were there and faced the worst the Hun could do. Happily the armistice has been signed, and influenza has virtually disappeared from our state.

The best brains of the world are now engaged in an effort to provide protection against war and pestilence in the future. Let us hope that these efforts will be successful, and the means suggested will be effectual.

The time has come for those who went to return, and we welcome them back with outstretched hands and glad hearts. We have been told a great deal about how changed they will be, and with shivers of uneasiness we have quietly wondered a bit about just what kind of a place we would be allowed to fill in the readjustment they would make. So far as I have observed, there is no hint that any of them have grown either wings or tails since they left. They seem glad to be back and glad to see us. They have learned much which will stand them in good stead as they resume their former places; but we, too, have profited by the experience of the past two years. They may know more about directing an ambulance company, treating gas victims, or lacerating gunshot wounds, than we do, but they are no better obstetricians or pediatricians because of this knowledge. They can tell us much about digging trenches, transporting wounded under fire and the varied duties of field or camp, but we have had a postgraduate course in physical diagnosis never equaled in the same length of

time in the history of the world. After all, we resume our former fraternal relations nearer on an equal footing than would seem true at first thought.

We will learn a great deal from them, and I am persuaded our activities will yield much of value to the common good. We may, therefore, reasonably assume that the medical standard of the future will be raised to a higher plane of useful efficiency through the joint experiences of those who went, and the "men who didn't go."

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### THE NECESSITY OF MAKING BLOOD PRESSURE EXAMINATIONS OF PERSONS OF ADVANCED AGE AT STATED INTERVALS.\*

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By Dunean Eve, M. D.,  
Nashville.

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In suggesting this subject for discussion, we were well aware that the profession had not reached any very definite conclusions as to procedure, and that no very definite plan of uniformity had been proposed regarding the matter; yet we are becoming stronger in our convictions every day that accidents happen which can be prevented by making proper investigations at stated and regular intervals.

In this connection we will cite a case that illustrates the necessity of blood pressure examinations:

Will refer to the celebrated case which occurred on the New York Central Railway, as a fast train, a few years ago, pulled into the Buffalo, N. Y., station, and published not only in newspapers, but medical journals. No doubt many of the members will recall this interesting occurrence, where the engineer lost consciousness, although his hand was on the throttle, but, going into the terminals at great speed, attracted the attention of the fireman, who prevented much of the gravity of the situation by decreasing the speed of the train

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\* Read at Annual Meeting of Tennessee State Medical Association, at Nashville, April, 1919.



by the emergency brake, but not until the engine had struck with much force the "bumper post," and as a result, several passengers were injured. This led to an investigation, when it was found the engineer was suffering with Bright's disease, and in a very short time died in an attack of nremic coma.

Since the enactment by the Government of certain laws holding common carriers in interstate traffic responsible for injuries and deaths that might occur from negligence or inefficiency of its employes, or from defects of machinery, track, or roadbed, railways companies have begun a series of investigations in an effort to prevent accidents. Not only has the responsibility of preventing accidents been placed upon our great industries by national and state legislation, but they have been compelled to operate shops, factories, mines, etc., under the direction of sanitary experts, thus offering the most favorable surroundings for conservation of human life.

When we contemplate the loss of life by preventable accidents, to suggest nothing of the number of injuries that occur—a number greater than all the wars this country has ever experienced—we can appreciate the need of considering measures necessary for prevention.

The importance of blood pressure and conditions to which it applies has become prominent in the last few years from its practical value and in many instances reliable when other means fail us.

Dr. T. C. Janeway has very clearly expressed the matter in a recent article. He says, in substance:

"1. It should be taken in first examination of every patient.

"2. Occasionally for watching the progress of cardiovascular disease and nephritis.

"3. Examination for certifying to the state of health—for life insurance, applicants for the army, navy, police, fire departments, etc." (He also mentions its value in eclampsia and diagnosis in conditions with abdominal pain.)

We do not presume to tax your patience by going into the methods of measuring blood pressure, as all the modern instruments utilize the pneumatic principle and are about the same, but the point to be especially empha-

sized is that the maximum or systolic pressure by itself indicates mainly heart strength, but equally, if not more important, the peripheral resistance as shown by the minimum or diastolic pressure. Janeway claims:

"In the past very little work has been done on diastolic pressure and pulse pressure, a fact he claims due largely to the difficulty in obtaining reliable readings with the instruments available and the methods used; but this is no longer the case where the auscultatory method is employed by releasing the air pressure and listening with a stethoscope over the artery just below the inflated cuff. The thumping sound is followed by a murmur, and then by a second thumping sound, which becomes fainter and suddenly disappears. At the time of the disappearance of all sound, again note the height of the mercury column, which gives the true diastolic pressure. This last auscultation method has almost revolutionized the determination for diastolic pressure."

The diastolic and pulse pressure are sometimes of greater importance than the systolic.

Don't be too enthusiastic to believe there are not contra-indications in determining blood pressure examinations, for pain, anger, emotion and mental efforts stimulate vaso-constriction and cause a rise in blood pressure, especially diastolic reading; the pulse is also quickened. Blood pressure is also affected by edema and asphyxia.

From Sajous' "Analytic Encyclopedia of Practical Medicine," Volume II, published last year (1918), by the F. A. Davis Co. (Philadelphia), we copy from pp. 492 and 493 the following for our information:

"*Arteriosclerosis*.—The systolic pressure is greatly increased, from 170 to 250 mms. The diastolic pressure increases from 110 to 130 mms., but not proportionately increasing the pulse pressure greatly.

"*Nephritis*.—Chronic interstitial nephritis gives a high systolic pressure, from 200 to 270 mms., but not proportionately increasing the pulse pressure greatly.

"*Chronic Parenchymatous Nephritis*.—The blood pressure is uncertain, often being normal. When there is hypertension it often aids, but its absence does not negate the diagnosis.

*"Acute Nephritis.*—The pressure varies greatly, and is not valuable as an aid to diagnosis.

*"Uremia.*—The blood pressure runs parallel with the symptoms, maximum pressure being very high, in some cases as high as 290 mms.

*"Apoplexy; cerebral thrombosis; depressed fracture of the skull; fracture of the base of the skull; intracranial hemorrhage; tumors (rapid growing cerebral); Jacksonian epilepsy and cases of increased intracranial pressure,* the highest blood pressure readings occur. Systolic, 250 to 400 mms.; diastolic, 120 to 160 mms. The pulse pressure is also increased and slowed.

*"Angina Pectoris* is accompanied with high systolic blood pressure, 180 to 260 mms.

*"Eye Diseases.*—Primary glaucoma tension is markedly increased, but not in secondary glaucoma. Arterial hypertension is often a cause of early retinal and arterial changes in the eye.

*"Trifacial Neuralgia* is accompanied by a high systolic blood pressure. Alcoholic delirium, the pressure (systolic) is lowered from 30 to 40 per cent."

In looking over the literature on this subject, we notice in the New York Medical Journal (November, 1914) that Drs. J. A. McWilliam and G. S. Melvin call attention to the fact that in complete heartblock there may be a high systolic pressure while the mean pressure is low, and there are signs of inadequacy of the circulation. The diastolic pressure, on the other hand, has come to have considerable value alone in the estimation of the state of the circulation.

Back as far as 1913 Dr. P. B. Magnuson, of Chicago, in a discussion of blood pressure examinations at the annual meeting of the Chicago and Alton Surgical Association, and published in the Railway Surgical Journal (November, 1913), claimed "that he insisted on blood pressure examinations to nip in the bud the chance of getting any man into the service who was liable under quick strain or violent exercise to get a stroke of apoplexy, to fall dead at his work, to be apparently killed in the service, when, as a matter of fact, it was a pathological process in his own body which killed him."

Dr. J. W. Fisher, medical director of the Northwestern Life Insurance Co., has presented blood pressure findings in about 30,000 records, which is required by his company in all examinations of applicants. This is quite significant.

Dr. R. W. Baird, of Dallas, Texas, advocates in an article on blood pressure, published in the Texas State Medical Journal (January, 1917), complete examinations (including blood pressure) every six months of all persons after passing the forty-fifth year of age.

One of the most interesting contributions we have had occasion to examine is entitled "Blood Pressure in the Aged," by Dr. L. M. Bowes, of Chicago, and published in the January, 1917, Journal of Laboratory and Clinical Medicine, edited by Dr. Victor C. Vaughan. In Table No. 3 presented it gives the average pressure of fifty men between 65 and 94 years of age, as follows:

Age.	No. Examined.	Systolic.	Diastolic.	Pulse.
65 to 69-----	11	145	81	63
70 to 74-----	10	166	91	75
75 to 79-----	14	159	89	77
80 to 84-----	11	163	84	80
85 to 94-----	4	145	81	65

It is claimed in this list examined there were few who had high blood pressure without symptoms, yet they were going about their everyday duties in apparently perfect health. There were some who simply complained of a morning headache, slight vertigo, numbness or tingling of the hands or feet. The symptoms pointed to nephritis, aortic regurgitation, cerebral hemorrhage and arteriosclerosis.

"There were 22 who had systolic pressure of 200 mms. or over, 13 had arteriosclerosis alone, 3 had cardiac lesions, 2 had nephritis, 2 had cerebral hemorrhage and cardiac lesions, 1 had cerebral hemorrhage alone, and 1 nephritis and a cardiac lesions. The highest systolic pressure was 270 mms.; this was a case of nephritis.

"There were 28 who gave diastolic pressure of 100 or over, 16 had arteriosclerosis alone, 7 had cardiac lesions, 2 had cerebral hemorrhage and a cardiac lesion, 2 cardiac lesions and nephritis, and 1 had cerebral hemorrhage.

"There were 30 who had pulse pressure of 100 or over. The highest pulse pressure was 150, observed in a case of aortic regurgita-

tion; 16 had cardiac lesions, 7 arteriosclerosis alone, 3 cerebral hemorrhage, 3 nephritis and 1 had nephritis and a cardiac lesion.' "

Dr. Bowes reported, besides the fifty cases mentioned, blood pressure of one hundred more, making, in all, one hundred and fifty. His conclusions are:

"1. Only repeated readings of both systolic and diastolic pressure are of value, and both arms should be used for observation in old people.

"2. Inequality of the pressure of the two sides is frequent in arteriosclerosis.

"3. There may be a high or low pressure in arteriosclerosis; the pressure failing with involvement of the heart muscles in the process of fibrosis results in chronic myocarditis.

"4. High systolic pressure associated with high diastolic pressure indicates cerebral hemorrhage or nephritis.

"5. A sustained hypertension, both of systolic and diastolic pressure, indicates cerebral hemorrhage, while hypertension indicates cerebral embolism.

"6. A sustained high systolic with a low diastolic pressure usually indicates cardiac trouble. A low diastolic pressure is common with aortic regurgitation.

"7. A high pulse pressure is frequent in arteriosclerosis and aortic regurgitation, and a sustained high pulse pressure usually results in a failing heart.

"8. A systolic pressure of 200 may not keep a man from his daily business.

"9. A lowering blood pressure indicates a failing heart.

"10. Acute enteritis lowers the blood pressure."

Dr. W. L. Bierring, of Des Moines, Iowa, has presented a most excellent article on blood pressure, published in the *Journal of the Iowa State Medical Society* (July, 1917), in which his conclusions are quite similar to those just quoted.

It was the distinguished Cabot, of Boston, who declared:

"I see a good many cases of renal disease entirely free from albuminuria and from casts, but with high blood pressure, which are shown later—post mortem—to be renal disease. Examination of urine has again and again led me astray; the measurement of the blood pressure,

almost never."

Our experience does not altogether coincide with Dr. Cabot's, for we have been disappointed, as we can call to mind on several occasions when blood pressure examinations made us continue some employes in service, to learn only a short time after making a favorable report as to their physical condition, death occurred from apoplexy, uremia, or some other affection which we are taught by recent blood pressure examinations should have been revealed. Yet, remember, our technique, while not complete, is fast improving, enough for us to be encouraged to recommend the necessity of making blood pressure examinations of persons past the meridian of life at stated intervals.

#### DISCUSSION.

Dr. Otis S. Warr, Memphis: I am sure we have all been very much interested in this splendid paper presented by Dr. Eve. There are several points in it that I think we can well profit by.

Yesterday I had referred to me by one of our oculists a notable case in which the contentions of Dr. Eve were well borne out. This man had been apparently in good health until this last week, with the exception that he gave a history of two years ago of suddenly losing consciousness which lasted twelve hours. He was able to return to his business the following day, and has lost no time since. Two weeks ago he began to notice rapidly failing vision. He consulted an oculist and several retinal hemorrhages were discovered. The oculist, recognizing at once a case of possible nephritis, the patient was referred to me for a thorough examination. In this case I found the highest diastolic pressure I have yet come across. The man's diastolic pressure was 170; the systolic pressure, 240. The first urinalysis revealed no albumin.

As to functional tests, with the phenolsulphonaphthalein test we found 13 per cent in the first two hours. A specimen of urine was collected and we found a trace of albumin with a few hyalin and granular casts. In all probability, this man is totally incapacitated, and permanently so. If this man had followed out Dr. Eve's contention and been examined five years ago, at the time when he had a loss of consciousness, and had undergone periodical blood pressure readings, a great deal of the present condition might have been saved.

There is no doubt that when railroad employes and any of the employes in service corporations are examined periodically the interests of these corporations are best conserved by these



routine methods of examination. As the essayist has well emphasized, we cannot pay too much attention to the diastolic pressure. The old plan of recording systolic pressure is likely to be misleading. If we are only going to attend to one, the diastolic pressure is far more significant. The pulse pressure must also be considered.

As to the interpretations of these blood pressures, we have a great deal to do yet before we are quite sure of our ground.

There is no doubt that there is the element of nephritis in a great many of these cases, and there can be no doubt that arteriosclerosis plays an important role in these cases that are past middle life. It is really immaterial, so far as the patient's welfare is concerned, which of these two conditions predominates. That is an important thing for the patient to realize, and we cannot impress upon the individual patient too strongly the point that when the diastolic pressure begins to rise above 140 he is on dangerous ground, and steps should be taken at once to bring this pressure down, if possible, or, at least, a regular routine followed in order to prevent the accidents that Dr. Eve has mentioned.

This is a subject that we cannot devote too much attention to, and in all routine examinations the blood pressure readings, both systolic and diastolic, as well as the pulse pressure, should be recorded, and periodical examinations should be insisted on in patients over forty-five years of age.

Dr. Frank A. Jones, Memphis: Dr. Eve has presented a paper which I regard as very important as a medical teacher, and as one of our surgeons, he has presented a splendid contribution on a medical subject. I want to congratulate him on having presented the best paper I have heard for a long time on internal medicine. I do not think there is an internist in this hall or in the country who could have presented the subject of blood pressure from an internal medicine viewpoint any better than has been done by this eminent surgeon. I wish more surgeons knew more about internal medicine.

The subject of blood pressure is so broad that we can hardly touch it in a five-minute discussion. It is a question that in many respects is a mystery. We find a number of cases where we have given a grave prognosis from the systolic and diastolic pressure and pulse pressure. In other cases, where the condition of the patient seems very good, where the blood pressure is not so high, and the heart is not so much dilated, and there are not many casts or albumin in the urine, we give a favorable prognosis, and those patients may drop dead suddenly, whereas the other patients with a grave condition go on for years.

I recall a man who came to my office with a blood pressure of 220, with a badly dilated heart,

and for fifteen years since he has been under my observation from time to time.

All of us are accustomed to reading in the lay press now and then of some distinguished man, a clergyman, a lawyer, or a physician, who is said to have died suddenly from acute indigestion. I have no doubt that many of these cases of very high blood pressure masquerade under the guise of acute indigestion, and that the high blood pressure is the cause of sudden death.

I am quite satisfied that our textbooks on blood pressure and on cardiorenal diseases have not devoted sufficient attention to angina abdominalis. I believe we find as many cases of angina abdominalis as we do of angina pectoris. We also have a number of cases of angina renalis and perhaps as many cases of angina hepatalis. We have as many cases of thrombosis of the renal, gastric and mesenteric arteries as we have of the coronary arteries.

My experience agrees with that of Krehl, who, in his book on "Pathologic Diagnosis," says a good deal about blood pressure and the various anginas. He believes that the starting point of nearly all high blood pressures, when associated with the solar plexus, is in the abdominal cavity, and in holding post mortem examinations he has found atheroma of the arch of the aorta, where there has been thrombosis in the aorta, and he says that if one will make a careful examination he will find that there is much more distribution of atheromatous degeneration in the gastric and mesenteric arteries than in the so-called coronary arteries.

With reference again to blood pressure, I want to say that the young practitioners are inclined to attach too much importance to blood pressure per se, while those practitioners who have had a broad experience as teachers do not lay as much stress on high blood pressure as the younger practitioners.

As to the ravages of high blood pressure, they depend a good deal upon the degree, the stage and condition of the arterial wall. If the artery is soft, is palpable, and not tortuous, if the heart is not unduly dilated, and if the sounds are pure, the blood pressure in a measure will take care of itself. I have found that a great many young men come into my office and say, "Doctor, I want to see you. My doctor says that I have a blood pressure of so and so, and my condition is considered very serious indeed." On making a careful and critical examination, not only with reference to the blood pressure itself, but the physical findings and the physical state of the patient, I find the latter is good. A number of these patients have become introspective and retrospective to such an extent that they are watching their blood pressure, night and day, they are praying about it, and doing many other things. All this invites introspection.

Dr. Eve (closing): I wish to apologize for presenting to this Association a paper on internal medicine. Dr. Jones is correct when he says that the paper is more like a contribution by an internist than by a surgeon; nevertheless, the importance of the subject I thought warranted its presentation. I have never practiced internal medicine; I never treated a case of pneumonia or typhoid fever in my life. My colleague, Dr. Witt, was rather surprised that I should present a paper of this character, but I was prompted to do so after a very earnest discussion that took place in Chicago a year ago on the same subject, and this time the men present began to realize the importance of this subject. I believe in connection with corporation work we can obtain a good deal of definite information regarding approaching death of people with high blood pressures.

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#### MINUTES OF SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY, APRIL 10-11, 1919.

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The Section of Ophthalmology and Oto-Laryngology of the Tennessee State Medical Association was called to order by the Chairman, Dr. Hilliard Wood, at 2 o'clock p. m., Tuesday, April 8, 1919.

The Chairman: Gentlemen, I wish, on behalf of the Nashville Academy of Ophthalmology and Oto-Laryngology, to welcome you gentlemen to this meeting, and I hope others will come in, as I am sure they will, during the meetings.

I wish to call your attention first to something of an outline of the work of this session of this Section.

This afternoon will be devoted to didactic papers and discussions, and at 6 o'clock this evening the members of this Section are invited and urged to meet with the local eye, ear and throat men at a dinner to be given at the Hermitage Club, on the street just down two streets below, adjoining the Hermitage Hotel. After that is over, we will return here and continue our papers and discussions through the evening. Tomorrow morning we will also continue the papers and discussions, in the forenoon, up until 11 o'clock. At 11 o'clock tomorrow morning we will have finished our part of the program—that is, that portion which we conduct here

—and adjourn to the general meeting, to hear a special address on "Suspension Laryngoscopy" by our guest of honor, Dr. Robert C. Lynch, of New Orleans. Tomorrow afternoon, at 2 o'clock, at St. Thomas Hospital, just west of here, some dozen blocks, will be a clinic for the members of this section, an eye, ear, nose and throat clinic. The principal portion of that clinic will be a demonstration of suspension laryngoscopy by Dr. Lynch, our guest of honor. A series of interesting cases are in the hospital, and Dr. Lynch is here to demonstrate suspension laryngoscopy. We trust that every member of the Section will be present at the demonstration, for he has come here for that purpose.

I am sorry to call attention to the loss of two of our members: Dr. Davis, of Knoxville, and Dr. Steele, Sr., of Chattanooga.

Dr. Davis was one of the ex-chairmen of this Section, as you know, and Dr. Steele was one of the oldest and most honored members of our specialty in the South. I shall be glad in a few moments to entertain a motion for the appointment of a committee to submit suitable resolutions upon the death of Drs. Davis and Steele. I will be glad to entertain that motion now, if there is no objection, before we leave this portion of the subject.

Dr. Scott: Mr. President, I make that motion.

The Chairman: Dr. Scott makes a motion that a committee be appointed to submit suitable resolutions on the death of Drs. Davis and Steele.

Dr. Travis, of Chattanooga: I second the motion.

The motion was carried, viva voce.

The Chairman: I will appoint on that committee Dr. Savage, Dr. Otter, and Dr. Travis.

At the meeting in Memphis a year ago, Dr. W. Likely Simpson was elected Secretary, but he was called to the service, and in doing so, it so happened that we lost our records of our meetings of our Section, so that we have no records of any of our previous meetings, and he wrote me from the camp that he would not be here, and that he did not have the records. In fact, he did not recall having received the records from the former Secretary, Dr. Potter, of Knoxville. In that situation,

I requested Dr. Louis Levy, of Memphis, to act as our Secretary, which he very kindly consented to do, and has done most efficiently, so that Dr. Levy is now our acting Secretary.

In this connection, gentlemen, let me make this suggestion, which I hope will meet with your approval, that the plan which we have adopted heretofore, during the two or three years of our existence, of changing our Secretary each year is, in my judgment, an error. It is not done by our State Society, by the Southern Medical Society, by the American Medical Society, or by any other medical society with which I am familiar. I think it would be wise if this society should adopt some plan, some policy, by which the same man would be here as Secretary for years and years, and only change for cause. For it is very plain that any man will make a better secretary the second year than he did the first, and the work of the Section falls upon the Secretary. If we get a new man every year, we will always have a man comparatively and relatively inefficient, certainly inefficient as to what the same man would be if he was not changed. I hope that you, gentlemen, will therefore consider this, and that you will act favorably upon some plan.

Dr. Price: Is there a constitutional provision that the man should be continued?

The Chairman: I don't think there is any constitutional provision about it. We have lost all of our papers, constitution and all. If we would elect our Secretary for five years, I believe it would be very much to the point. I hope, gentlemen, that this will meet with your approval.

I do not know of any other announcements that I have to make. If any others occur to me I will be very glad to submit them to you from time to time.

Dr. Fagin: Mr. President, I will make that as a motion, as we did the other, that we elect our Secretary for five years.

The Chairman: I will be very glad to entertain the motion now, or later, as you wish; now, if you wish.

Before I leave this, it might be better, Dr. Fagin, to bring it up in the proper order, later, and I would be very glad if you would.

I am requested by the Secretary, Dr. Louis Levy to ask that each of the attendants please give your name and address to Dr. Levy, for he has no records, papers, or list of members, of anything of the kind. Please help him out by giving your name and address, so that he may get up a list of members for future use.

In considering, gentlemen, some subject to present to you on this occasion, I recalled the fact that during this recent epidemic since October last, we have had a good many cases of infections of various things and places, especially mastoids, and I have been so impressed with the series of mastoids that we have had to deal with that I decided to submit to you some odds and ends of remarks prompted by my own observation and experience during this past epidemic. It is not a formal paper on mastoid abscess, but rather a lot of random impressions that have occurred to me, and that have been impressed upon me by one cause or another, and which may be in a certain sense more or less the exceptions to the ordinary rules of mastoid work, at least in some cases. If you will, therefore, I will be glad to give you some of these.

Beginning here, program was then started and, upon finishing, regular business was again taken up.

Chairman Wood: I believe that completes the list of papers present. Is Dr. Savage's committee ready to report? I believe Drs. Potter and Travis were on the committee with Dr. Savage—the memorial committee.

Dr. Travis, Chattanooga: I don't know whether Dr. Savage is ready or not. I spoke of a committee yesterday—I thought you have reference to a committee I was on. It was Dr. Steele, Dr. Potter and Dr. Savage, the committee I was put upon, of which Dr. Savage was chairman, was the committee appointed yesterday. I don't know which committee you have reference to.

The Chairman: It was the memorial committee, with reference to Drs. Davis and Steele.

Dr. Travis: You appointed that committee yesterday. Dr. Savage is chairman of that, and he has never mentioned it to me.

The Chairman: Well, will you gentlemen



get together, and we will have to ask you gentlemen to report at the next meeting.

Dr. Potter: I am very sorry, but that is the first intimation I have had that I was on that committee.

The Chairman: Dr. Fagin introduced, or started to introduce, a resolution yesterday, regarding the election of the Secretary for some period other than one meeting. Your motion is in order.

Dr. Fagin, Memphis: I moved, yesterday, that we elect our Secretary for a period of five years, so that the Secretary, in a way, is a permanent thing. In this way he can get up a better program to have ready for our meeting, and the second year he will be very much better than the first, and so I move we elect him for a period of five years.

Dr. Travis: I second the motion; but at the same time, I want to say this, that five years would be a bad precedent. I would favor this, that five years would be a bad precedent. I would favor this, that we elect a Secretary and let it be the consensus of this body that this Secretary be continued as long as—not five, ten or twenty years—let it be that it is the consensus of this body that this Secretary be kept in office as long as he desired it and did his duty.

The Chairman: You mean without any reelection?

Dr. Travis: I will tell you what we do in Chattanooga, in our local society. We have had one secretary that has been with us a long time. It is generally understood that we are going to keep him as long as we can; but we elect him every year, and it is understood with us that Dr. Larimore will be our Secretary as long as he will keep it, because he makes a good one. Now, suppose we elect a Secretary for five or ten years, which I will oppose, and he does not come, or is lax, then we have him on our hands. Now, if we elect this man for a year, and let it be the understanding that he is to be our Secretary indefinitely, and as long as he wants it, and performs the duties, I will favor that.

The Chairman: Has the motion a second?

Dr. Travis: I seconded it.

Dr. Broyles: I make the point of order that we cannot elect a man for but one year at a time, because it is against the laws of our

Society.

The Chairman: We have no laws. All the records were lost. We have not a scratch of the pen to show that we ever existed before this meeting. That is what we want to avoid. We have no records of any of the meetings preceding this. I am speaking of this Section.

Dr. Broyles: Yes, but this Section is under the laws of this Society; all officers must be elected annually, and we are under that.

Dr. Geo. H. Price: The point of order is well made.

The Chairman: The Society can evidently make its own rules, and regulate its own affairs.

Dr. Broyles: No, sir, it cannot, because it is a part of the Association, and the laws distinctly say that every officer must be elected annually.

Dr. Herron, Jackson: I believe it is a good rule to have an election every year, for this reason: we have a Secretary from Nashville one year, Chattanooga one year, and Knoxville one year.

Dr. Price: That is the very thing we want to get rid of—to keep changing the man every year, so that they don't get familiar with their work.

Dr. Broyles: I am in favor of it; but we will have to change the organic law to do it.

Dr. Levy: "Section 5: The Section on the Eye, Ear, Throat and Nose which may be formed, which may hold a separate session at the same time at the annual meeting, for discussion of such technical questions, etc. etc." (Dr. Levy here read the Section 5.)

Dr. Dulancy: I am about as familiar with the Constitution and By-Laws as any member of the Society. Any branch or section of a general society cannot pass any law that will conflict with the by-laws and constitution of the original society. So now a member can be eligible to office as long as he lives and the society exists, but you cannot elect him for any longer term of office than one year at a time.

The Chairman: Let us hurry up, just a moment. This question is a resolution to prevent the very dilemma that we are in now; that is the trouble of changing our Secretary.

Dr. Dulaney: There is but one rule—that is Roberts' Rules of Order; you cannot interfere with the by-laws.

The Chairman: The question is, how are we going to keep from getting a new Secretary every year?

Dr. Dulaney: Re-elect him, just like Olin West; he is elected one year at a time.

Dr. Travis: There will be no trouble in re-electing your man every year.

Dr. Fagin: He has been Secretary of our Society of Ophthalmology and Oto-Laryngology over there, and he works, and he gives us a good program which he gets up every year, and I thought if he was elected for five years, we would have something to look forward to, but if he was elected only for one year, I will withdraw my motion.

The Chairman: The Chair will be glad to entertain a motion that it is the sense of this Society that he be elected on his good conduct at every annual meeting.

Such a motion was made, and unanimously carried.

The Chairman: Before we take up the election of officers, understand that the demonstration by Dr. Lynch of suspension laryngoscopy takes place at St. Thomas Hospital at 2 o'clock, and as we are liable to get scattered, I would suggest that you would be going the same way anyhow, the automobiles may take you; but if you take the street cars, you will get separated, either the West Nashville or the Charlotte Avenue car. The St. Thomas Hospital, as most of you know, is fourteen blocks west of here, and if anybody doesn't know, he would better go with somebody who does know.

The next point, gentlemen, is the election of officers. Whom will you have for your Chairman for next meeting?

Dr. Dulaney: There has been a precedent that we elect a man from each grand division of the State, so at this time East Tennessee comes in line, so I wish to nominate Dr. W. W. Potter for Chairman.

Motion duly seconded.

On motion of Dr. Geo. H. Price, which was duly seconded and carried, the Secretary was directed by the Chair to cast the ballot of the Society for Dr. W. W. Potter, of Knoxville,

as Chairman, which was done, and Dr. Potter declared elected. The Chair requested Drs. Dulaney and Broyles to escort Dr. Potter to the chair, and they complied. The retiring Chairman said to Chairman-elect Potter: "Doctor, I congratulate you and the Society," and the new Chairman assumed the gavel amid the cheer of the member, and calls of "Speech!"

Chairman Potter: Gentlemen, I have no speech to make whatever. I just want to say to you that I feel my unworthiness to fill this chair, succeeding such men as those who have gone before me—such men as Dr. Savage, Dr. Dasi, Dr. McKinney, and Dr. Wood. When I think of that quartet, it makes me feel more my unworthiness; but I shall do my best, and I thank you very heartily. (Applause.)

The next thing that comes up, gentlemen, is the election of a Vice-Chairman.

Dr. Herron: Mr. Chairman, I move, sir, that you elect Dr. Robert Fagin, of Memphis, as Vice-Chairman. I think he will make a good one.

Motion duly seconded.

It was moved by Dr. Travis that nominations for this office be closed, and that the Secretary cast the ballot of the Society for Dr. Fagin, which was duly seconded and carried, and it was so ordered. The Secretary thereupon cast the ballot of the Section for Dr. Fagin, who was declared elected.

The Chairman: Now comes the next, the election of the Secretary.

Dr. Dulaney: Mr. Chairman, to show you my heart is in the right place, I want to nominate Dr. Louis Levy. He has made us a most excellent Secretary. It has been my good pleasure to know him for a long time, and I know that he is the best man that we could possibly get for Secretary of this Society. He has been secretary of the Section of Ophthalmology and Oto-laryngology in Memphis for the Shelby County Society for many years, of which I happen to be a member, and I know that there could not be an man more untiring in his efforts than Dr. Levy.

Dr. Travis: I want the pleasure of seconding the nomination.

Dr. Hilliard Wood, Nashville: I wish to second that nomination, too. When the position

happened to become vacant as secretary during my administration there was nothing that I had done that gave me quite so much satisfaction as the appointment of Dr. Levy. There was never any question in my mind as to whom I was going to appoint, and I will take great pleasure in seconding that, and I hope we will keep him, gentlemen, for the next forty years. (Applause.)

Dr. Travis: I move the nominations be closed, and the Chairman cast the ballot for Dr. Levy.

Motion duly seconded, and so ordered. The Chairman thereupon cast the ballot of the Section for Dr. Levy, and he was duly declared elected.

The Chairman: I take great pleasure in casting the ballot of this Society for Dr. Levy. Long may he wave!

Dr. Travis: Before we adjourn, I want to say this: that the Chattanooga Medical Society is preparing to ask this Society to meet with them next year in Chattanooga, and I hope we will not be defeated. I do not believe Knoxville is going to contest against us, and we will wish to see every one of you there. (Applause.)

On motion, duly seconded, the Section adjourned sine die.

LOUIS LEVY, Secretary.

#### **DICHLORAMINE-T AND PETROLATUM DRESSING FOR BURNS.**

Torald Sollmann reports that solutions of dichloramine-T in chloroosane do not protect the large open surfaces of burns against mechanical irritation and access of air. On the contrary, the solution is absorbed by the dressing, which is then glued by the wound secretions and causes pain and injury when the dressing is changed. As a result of a study of the decomposition of dichloramine-T by different solvents, Sollmann proposes the use of an ointment of three parts of surgical paraffin and seven parts of liquid petrolatum as a protective dressing on wounds (burns) treated with dichloramine-T-chloroosane solution. It may even be used as a basis for a

dichloramine-T ointment.—*Journal A. M. A.*, April 5, 1919, p. 992.

#### **SURGICAL SOLUTION OF CHLORINATED SODA (DAKIN'S SOLUTION).**

According to New and Nonofficial Remedies, 1919, surgical solution of chlorinated soda may be prepared (1) by the electrolysis of a sodium chlorid solution; (2) by the action of chlorine on sodium carbonate; (3) by the interaction of chlorinated lime and sodium carbonate solutions with subsequent treatment with either boric acid or sodium bicarbonate to reduce the alkalinity.—*Journal A. M. A.*, April 5, 1919, p. 1081.

#### **"PROCAINE," A NEW FREE BOOKLET, WHICH MAY BE HAD FOR THE ASKING.**

"Procaine for Local Anesthesia in Surgery, the Specialties, and Operative Dentistry," is the title of a new booklet by Dr. F. H. McMechan, editor of the American Yearbook of Anesthesia and Analgesia. It is an editorial abstract of a series of articles on local anesthesia prepared by Dr. McMechan, and presents in simple, boiled down, yet detailed style the advantage of procaine over other local anesthetics; the various solutions and combinations used and how to prepare them for marketed products; indications and contraindications; and the technique for its use in spinal, sacral, venous, ophthalmic, rhinolaryngologic, and dental anesthesia. A number of excellent illustrations add to its value.

This booklet may be had free by any physician, hospital superintendent, surgeon or dentist sending his request to the Abbott Laboratories, 4757 Ravenswood Avenue, Chicago, Ill. Everyone who secures it will find it distinctly worth while.

The Abbott Laboratories are making procaine under license from the Federal Trade Commission, and supplying it in standard market packages under the well known guarantee of quality and accuracy.





A. FRANK RICHARDS, M. D.  
President of Tennessee State Medical  
Association, 1919-20.

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the interests of the Medical Profession of Tennessee

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MAY, 1919

## EDITORIALS

### DR. A. FRANK RICHARDS.

Dr. Richards was born on May 21, 1866, near Sparta, Tenn., on a farm on which he grew up.

He attended the country schools, worked on his father's farm, and, from 1885 to 1890, taught in the schools of White County.

In 1890 he took up the study of medicine under the private tutelage of Dr. R. E. L. Smith, now Superintendent of the Eastern Hospital for the Insane. From 1891 to 1893, inclusive, he was a student in the Medical Department of the University of Tennessee, from which institution he received the degree of doctor of medicine in the latter year. For about four years following his graduation he was physician for the Bon Air Coal Company at Bon Air, Tenn.

Dr. Richards has done post-graduate work at different times in the New York Polyclinic, the New York Postgraduate Hospital, and the New Orleans Polyclinic, and has at all times kept himself abreast of the most advanced medical thought.

At the conclusion of his connection with the Bon Air Company, he removed to Sparta, where he had made his home since that time. On December 18, 1895, Dr. Richards was married to Miss Fannie Argo. They have one son, who has recently been discharged from the Navy, into which he went as a volunteer.

Dr. Richards responded to the call of his country in the recent war, and was commissioned as a captain in the Medical Corps, U. S. A., in August, 1918, and served in that capacity in the base hospital, Camp Wheeler, Ga., until discharged on December 11, 1918.

The new President has been for many years

prominent and active in all the organizations of his profession, from his county society to the A. M. A., of which he has been a member for fifteen years.

At his home he is recognized as a broad-minded and public-spirited citizen, and is a leader in every good work.

### AN EXPLANATION.

Letters have gone out from the office of the Secretary of the Tennessee State Medical Association to all 1918 members whose names were not on the 1919 roll at the time these letters were written. A few of these letters went to men whose names had been reported for 1919, and who should not have received such letters. The error was incident to the necessary rearrangement of the membership roll. A few others went to men whose names were reported by county secretaries after the letters were written and prepared for mailing. A relatively large number, however, went to men whose names were not reported and have not yet been reported.

There is no reason why any man who held membership in the Association in 1918 should not now be in the organization; there are many reasons why every such man should be in. Don't neglect the matter any longer.

### NEW MEMBER OF STATE BOARD OF HEALTH.

Just as the final copy for the May Journal goes to the printer, announcement is made in the public press of the appointment, by Governor Roberts, of Dr. C. B. A. Turner, of Gibson County, to membership on the State Board of Health. Dr. Turner is a member of the Gibson County Medical Society, and of the Tennessee State Medical Association, and a physician of standing and ability. It is believed that he will render fine service as a member of the Board of Health, and that his appointment will meet with general approval.

Dr. Turner succeeds Dr. V. A. Biggs, of Martin, as the member of the Board from West Tennessee. Dr. Biggs has served for

a long period of years, and has been active and earnest in his support of the efforts that have been made for building a better and stronger health department.

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### THE NEW ANTI-NARCOTIC LAW.

Chapter 105, Acts of 1919, is the new state law for the control of the use—or abuse—of narcotic drugs. In the opinion of certain government officers and a number of physicians with whom we have advised about the matter, the new state law is in conflict with the Harrison Act.

The state law permits the prescribing of morphine in amount of eight grains for one day, and in the case of an "incurable addict" who presents a permit signed by a health officer a physician may prescribe for a thirty days' supply. Under the Harrison Act, no such prescription is permissible, nor is it permissible to prescribe for an addict unless reductions be made from time to time in the amounts prescribed.

What constitutes an incurable addict? The law does not define. Who shall say?

Health officers are not required to furnish permits. What if they refuse?

The State Food and Drugs Inspector and the Secretary of the State Board of Health are required to draw rules and regulations for the enforcement of the law, but this they will not do until they are shown how it can be done without making trouble for the physicians and druggists of the state.

The Harrison Act takes precedence, therefore we would urge Tennessee doctors to rigidly observe its provisions.

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### SOCIETY MEETINGS.

The East Tennessee Medical Association will meet at Lenoir City on Thursday and Friday, May 22 and 23. Dr. W. N. Lynn, Secretary, advises the Journal that this meeting is expected to be well attended, and that an excellent program will be rendered. This is the first meeting for a whole year, the fall meeting having been called off because of the war, and will be made a "get-together" meeting for the medical men of the whole of East Tennessee.

The West Tennessee Medical and Surgical Association will meet at Dyersburg on May 28 for a three days' session. The first two days will be devoted to the scientific work of the society, and the third day will be given over to having a large, fine time at Reelfoot Lake, where the members of the Association will be entertained by the Dyer County Medical Society. The programs of the West Tennessee Society are always good, and the entertainment furnished at its meetings is always most thoroughly enjoyable.

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The Upper Cumberland Medical Society will meet at Cookeville on Tuesday and Wednesday, May 27 and 28. The Secretary, Dr. L. M. Freeman, unblushingly states, in his official announcement, that the Upper Cumberland is the best medical society in Tennessee, which is rather a large statement, in view of the fact that Tennessee has several live medical organizations. The Upper Cumberland generally has a fine attendance from the section which furnishes its membership, and always has a good program.

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The meeting of the Middle Tennessee Medical Society is to be at Columbia on May 15 and 16. We regret that more extended announcement was not made in the April Journal.

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### NEW OFFICES FOR STATE BOARD OF HEALTH.

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The Tennessee State Board of Health has had its office in the State Capitol since its organization, many years ago. The ever increasing work of this office has made it necessary to secure new quarters, which have been found at 405 Seventh Avenue, North, Nashville. The entire first floor of the building at that number is now occupied by the Board, and it is now possible for the business of the Department to be carried on in much better fashion than heretofore.

The physicians of the state are most cordially invited to visit the new offices of the Board when in Nashville.



## DEATHS FROM MALIGNANCY.

There were 37,210 deaths recorded by the Bureau of Vital Statistics of the Tennessee State Board of Health in 1918, excluding 2,112 stillbirths. Of these, 1002, or 2.69 per cent, were attributed to malignancy, nearly all to carcinoma.

Decatur, James, Moore and Van Buren Counties are the only counties from which no deaths from malignancy were reported.

Memphis had 134, Nashville 88, Knoxville 45, and Chattanooga 41 deaths from the various forms of malignancy, which comparatively large numbers are due to the fact that these four cities are surgical centers. They are credited with deaths of hospital cases, a relatively large number of which die after operations deferred too long. In the counties in which these cities are located there are institutions of various kinds, the inmates of which are drawn from a number of counties and their death rates from chronic diseases are thereby increased.

The death rate from this cause for Tennessee is very considerably lower than the rate for the registration area of the United States. In fact, the rate is so much lower that the question is at once raised in one's mind as to whether many deaths do not occur in the state from malignancy without correct diagnoses having been made, or at least without the cause of death having been correctly stated. The attitude of many, including a certain number of physicians, toward the matter of the diagnosis and a statement of the diagnosis, is somewhat hard to appreciate. It is not infrequently the case that a patient and the patient's family refuse to accept, and even resent a diagnosis of cancer, and it has undoubtedly happened that some doctors, having in mind the fact above stated, have been disposed not to make such a diagnosis, or to withhold a statement of the fact when the diagnosis was made. Then, too, there is the patient who fears the diagnosis, and the doctor who dreads to discover the truth and to have to tell his patient.

Even though the returns made to our Bureau of Vital Statistics are altogether correct and reflect the truth with respect to the

number of deaths from cancer in this state, the fact still remains that too many cases of malignancy are brought to operation too late. That there are difficulties, numerous and hard to overcome, in the way of early diagnosis is altogether true, and it is also true that it is hard to get many patients with malignancy or beginning malignancy to the surgeon. The outstanding facts that every doctor needs to get fast in his head and that should be gotten, somehow, into the heads of our people, are these: An early diagnosis is essential for the prevention of cancer and for the cure of beginning cancer. No diagnosis worth while can be made without thorough and complete physical examination. The only procedure worth anything in the way of prevention or cure is surgical, except, of course, in the case of superficial lesions in which the use of x-ray may give permanent satisfactory results.

Whatever is done, certainly no patient who presents any symptom or gives any history pointing to the possibility of present malignancy or any condition which may become malignant, should be allowed to go without careful and thorough examination and determined and persistent effort to arrive at the correct diagnosis. And if cancer is found, the patient or some one who can assume responsibility should be very clearly acquainted with the facts. In any condition is found which may have a tendency, in the light of our present knowledge, to become cancerous, the possibilities should be pointed out.

When it comes to tumors, there are mighty few of them of any sort that are not helped by removal.

## DEATHS FROM CANCER AND OTHER MALIGNANT TUMORS, 1918.

COUNTY.	No. of Deaths.
Anderson -----	8
Bedford -----	12
Benton -----	5
Bledsoe -----	1
Blount -----	5
Bradley -----	10
Campbell -----	1
Cannon -----	3
Carroll -----	7
Carter -----	10
Cheatham -----	3
Chester -----	4

COUNTY.	No. of Deaths.	Overton	
Claiborne -----	5	Perry -----	1
Clay -----	2	Pickett -----	4
Cocke -----	11	Polk -----	3
Coffee -----	4	Putnam -----	6
Crockett -----	5	Rhea -----	6
Cumberland -----	2	Roane -----	12
Davidson -----	33	Robertson -----	14
*Nashville -----	88	Rutherford -----	13
Decatur -----	--	Scott -----	3
DeKalb -----	5	Sequatchie -----	1
Dickson -----	7	Sevier -----	13
Dyer -----	5	Shelby -----	27
Fayette -----	6	*Memphis -----	134
Fentress -----	2	Smith -----	6
Franklin -----	8	Stewart -----	2
Gibson -----	19	Sullivan -----	14
Giles -----	9	Sumner -----	10
Grainger -----	2	Tipton -----	8
Greene -----	13	Trousdale -----	2
Grundy -----	3	Unicoi -----	4
Hamblen -----	8	Union -----	6
Hamilton -----	16	Van Buren -----	--
*Chattanooga -----	41	Warren -----	7
Hancock -----	3	Washington -----	21
Hardeman -----	6	Wayne -----	2
Hardin -----	3	Weakley -----	15
Hawkins -----	6	White -----	6
Haywood -----	6	Williamson -----	7
Henderson -----	9	Wilson -----	16
Henry -----	7	Total -----	1,002
Hickman -----	4		
Houston -----	3		
Humphreys -----	3		
Jackson -----	5		
James -----	--		
Jefferson -----	3		
Johnson -----	3		
Knox -----	13		
*Knoxville -----	45		
Lake -----	1		
Lauderdale -----	5		
Lawrence -----	5		
Lewis -----	3		
Lincoln -----	12		
Loudon -----	4		
Macon -----	3		
McMinn -----	14		
McNairy -----	8		
Madison -----	10		
*Jackson -----	9		
Marion -----	4		
Marshall -----	15		
Maury -----	21		
Meigs -----	1		
Monroe -----	11		
Montgomery -----	13		
Moore -----	--		
Morgan -----	2		
Obion -----	13		

### THE BABIES.

Four thousand, seven hundred and eighty-seven death certificates for babies less than one year old were filed with the State Board of Health in Tennessee in 1918. Just 12.8 per cent of all deaths registered were of babies less than twelve months old. Seven hundred and twenty-six of these little fellows that died were prematurely born and "prematurity" was assigned as the cause of their deaths. In addition to that, there were 2,112 still births reported as deaths in 1918.

Then there were 1,406 deaths of babies less than two years old due to enteritis.

We recently heard one of our doctors—a good one, too—remark that he hated to be called upon to attend a sick baby, because he could not "tell much about them." We heard another good doctor say that he rarely saw his obstetrical cases in the country but one time, and that at the time of delivery. And we have heard such things before, too.

We wonder how many physicians "can't tell much about" sick babies? We wonder how many physicians know how to feed babies properly? We wonder how many see their obstetrical cases only at the time of delivery? We wonder if fewer Tennessee babies would be born prematurely and if fewer full-term babies would die if more physicians saw their obstetrical cases a few times before delivery, and if they saw the mothers and babies a few times after delivery? And we wonder how many physicians are earnestly trying to make themselves better able to diagnose and to treat properly the diseases of infants?

We know that a very considerable number of young children die in Tennessee each year without having had the possible benefit of any medical attendance. But we wonder if the fact that some of our doctors "can't tell much about" babies has not something to do with that.

The man who "can't tell much about" babies has no business treating babies. The man who makes a habit of seeing his obstetrical cases but once falls short of his duty. Yes, we know about the small fees, and know about how the doctor is not called until the pains begin, and all that. But the doctor can study infant feeding and the diagnosis and treatment of the diseases of babies, and he can educate his clientele—if that's the right word—up to paying the right kind of fees and up to calling him in at the right time. Our observation has been to the effect that the right kind of service goes a mighty long way toward making everything else right.

The season is upon us in which more babies are sick than in any other season. The big thing with the babies in the next few months will be right feeding. Holt, Kerr and others have written some fine textbooks on the diseases of children, and there are several journals devoted exclusively to the subject. The man who "can't tell much about" babies can utilize some of his spare time to fine advantage by studying one or more of these books and journals.

## MISCELLANEOUS

### ANNUAL MEETING OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

Among the subjects considered at the recent meeting were: The Council decided to publish at an early date a report on the unscientific and commercial propaganda for non-specific protein therapy. The Council appointed a committee to study the problems of serum and vaccine therapy with a view of publishing the evidence obtainable regarding both the value of, and also the dangers incident to, the use of serums and vaccines. A special committee was appointed to report on the present status of pollen extracts in the prophylaxis and treatment of hay fever. The Council adopted a resolution urging legislation which shall require the Public Health Service to extend its control of serums, vaccines, toxins and antitoxins to cover other patent remedies that are used hypodermically or intravenously. The Council passed a resolution that the control of arsphenamine by the Public Health Service shall be continued and the price controlled by the government. The Council decided to describe in a separate section of New and Nonofficial Remedies proprietary preparations of therapeutic value which are so exploited as to be inadmissible to New and Nonofficial Remedies. A committee was appointed to establish fuller co-operation between teachers of therapeutics and pharmacology in medical schools and the Council. A committee was appointed to determine the present status of radium water therapy.—*Journal A. M. A.*, April 28, 1919, p. 1243.

### PROCAIN ANESTHESIA.

There is no evidence of latent injury to the dental nerves from repeated injections of procain to control supersensitiveness of the teeth. If an isotonic solution is used and this solution made sterile by boiling, it is not probable that it will be injurious.—*Journal A. M. A.*, April 8, 1919, p. 1022.



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NUMBER 2

### A PLEA FOR BETTER RURAL SANITATION, AND SOME PREVENTIVE MEASURES.\*

By J. T. Moore, M. D.,  
Algood.

For many years the subject of rural sanitation has been discussed, and with it prophylactic measures for rural communities. Nevertheless, a thorough investigation would show that we are making very slow progress in this direction, first, because there is not sufficient organized effort by our health authorities; second, because of inability to secure adequate financial backing by our state and county authorities.

Our health board is all right so far as it goes, but it does not reach far enough. It is all right at the base, but does not reach the branches. It helps in a general way and may correct those things which might cause widespread disaster, but does not go into the home and correct evils which are undermining the very foundation of the health of our growing generation.

Our county health officers are paid very little and do very little. There are thousands of children in our state, growing up in filth and slime and foul air, pale and delicate, a prey to every contagious disease which comes along. These are the ones who suffered most during our recent epidemic of influenza. A large per cent of these contracted the disease and also suffered a greater mortality.

It has been shown by the draft figures that

the number of rejections on account of physical examination in the city are slightly more than in the country, but the per cent in closer the country record than in former years. It is shown that the death rate in the country is increasing, while that of the cities is decreasing. Statistics show that a greater number of children die under one year of age in the country than in the city. These are facts which should not be. The cause is due to improper sanitation, poor schools, lack of trained nurses, ignorance and illiteracy. It takes time to correct these evils. So long as people believe that it will give them cold to take a bath, or to let fresh air in a bed-room; that teething is always the cause of the baby's illness, and that it will never do to wean the little fellow except on a certain "time of the moon"—until false ideas are eradicated from rural communities we cannot materially improve health conditions.

These problems could be met by public health nurses if they could be secured. There is no means by which so much good can be done in so short time in a community as through the efforts of an intelligent, well-trained nurse.

This may solve the problem in the future, but for the present we must look to our health board. I want to see the day when a child is born in Tennessee and is not doomed to have a number of contagious diseases. I have always believed that by proper management, the ordinary diseases of childhood could almost be eradicated from our rural communities. It would be necessary for the health officers to keep in close touch with every contagious disease of the county, and see that they are reported. The health officer should

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

give his entire time to the job in a rural county and receive compensation for it. He, with proper co-operation and assistance, could control these widespread epidemics of childhood.

If there is a case of smallpox discovered anywhere in Tennessee, what is done? Why, everything which has been exposed to it is immediately quarantined, and every possible effort is made by the health authorities—city, county and state—to prevent its spread. Smallpox is a preventable disease. Practically every individual could be made immune from it. Yet, we may have measles, whooping cough and other serious diseases of childhood—diseases for which there is no immunizing remedy—go without very much effort to prevent their spread. We have observed the grave complications, the sleepless nights of mothers, the suffering of the little fellows affected by these diseases, the occasional death, the crippled lungs and other complications. Still, in the face of these facts, there is no great effort on our part to keep them isolated.

A few months ago in my town a little girl, while infected with whooping cough, visited, a block away, a young woman in her first pregnancy. This woman had had whooping cough when a child, but contracted it again from the little girl one week before she gave birth to a fine boy, the pride of the young father and mother; but when this fine boy baby was one week old he developed the disease, which proved fatal. This is only one of many striking incidents of the seriousness of this question, and I have brought this short paper merely giving what seemed to me important points to remind us that this is a field where it is possible for great and lasting good to be accomplished.

If we can only induce our county courts to employ sufficient force to clean up unsanitary places, and to prevent the mixing of those infected with disease and those who are well; if we could have sufficient force to have complete charge of all contagious diseases and report them, we will have done a most valuable service to our community.

## RURAL HEALTH WORK IN TENNESSEE.\*

By E. L. Bishop, M. D.,  
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**The Problem.**—The problem of rural health work is of such wide extent that no one paper can deal with it fully. Discussion in this paper is, therefore, confined to a few aspects of the problem.

In Tennessee that class of disease usually spoken of by public health workers as intestinal, or soil borne, is a question of major importance in any discussion of public health. First, because of its wide prevalence throughout all sections of the state; second, because of the effectual control measures which may be instituted. For the past several years the principal field work of the State Board of Health has been directed to the control of this group of diseases, the more important members of which are typhoid fever, the diarrhea and enteritis of infants, the diarrhea and dysenteries of older people, Asiatic cholera, and the parasitic infections of the intestinal tract. All, with the exception of Asiatic cholera, constitute major problems of public health in Tennessee. Some idea of the importance of this phase of the problem may be obtained by consideration of the vital statistics dealing with this class of disease. Seven hundred and fifty-nine, or three and two-tenths per cent, of all rural deaths (stillbirths excluded) in the state were due to typhoid fever. One thousand, three hundred and eighty-three, or four and one-tenth per cent, of all rural deaths (stillbirths excluded) in the state were due to diarrhea and enteritis under two years of age. We may assume that half as many deaths occurred from diarrheas and dysenteries of old people as occurred from diarrhea and enteritis in infants. A total of 9.35 per cent of all rural deaths would then be shown to be due to this class of disease.

That typhoid fever is, in Tennessee, a distinctly rural disease is shown by comparing

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the rural death rate from typhoid, which was 40.1 per one hundred thousand, with the city death rate, which was 29.1 per one hundred thousand. From typhoid fever alone a loss in non-productive expense of approximately \$2,049,300 occurred in the rural sections of the state. The financial loss in the cities from typhoid fever represented the sum of \$329,400. These sums show a per capita loss in rural Tennessee of \$1.097, and in the cities of Tennessee a per capita loss of .772c. Observe that the rural per capita loss is 32.5c, greater than the urban per capita loss. A reduction of the rural typhoid death rate to that of the urban typhoid death rate would, therefore, represent a saving to the state of \$606,549.15 in the non-productive expense of this one preventable disease. As a matter of fact, the total saving would be much greater, for "it has been found that for every life that is saved due to a reduction in the typhoid fever death rate there is from three to ten times as great a reduction in the death rate from other causes."

The saving in typhoid reduction alone would be sufficient to install a full time health department, with a personnel of three or more persons, in each of the ninety-one rural counties of the state.

Many difficulties confront operations looking to the control of this great problem and some, at times, constitute major problems in themselves. Among these may be mentioned:

(1) **Diffusion of the Problem.**—In a city, questions of a sewage disposal and of the protection of water are matters of municipal interest and control; while in rural areas each home constitutes a separate sanitary unit. In a city a few men have to be convinced that the prevention of soil pollution is an essential to health protection; while in rural areas the problem is multiplied by the number of householders living within each area.

(2) **Public Attitude.**—Among an urban population a "habit" of compliance with public health legislation has been developed by long custom. Among the rural population the "habit" of thought is that a "man's home is his castle," and certain persons are prone to resent outside interference. New habits of thought have therefore to supplant old habits of thought, and each householder

must be convinced of the necessity of certain measures in the protection of his own health as well as in the protection of the community health. Other difficulties deserving of mention are: expense, material for sanitary improvements, funds for co-operative effort, etc., ad infinitum. The problem of rural sanitation, as a whole, is therefore a phase of the general problem of education, and its possibilities are limited only by the possibilities of general education in these special matters.

**Solution of the Problem.**—Having outlined some aspects of the problem of rural health work, and having mentioned a few of its difficulties, an examination of the measures possible and of the value in the solution is pertinent. During the past several years the Bureau of Rural Sanitation of the State Board of Health has labored early and late to bring about even a partial solution. It has but lightly stirred the surface soil in this vast field and future effort must bring about this deep plowing necessary to effect an adequate solution. This effort will be a matter of years of patient, earnest, never-ceasing endeavor. A brief resume of the results accomplished by this bureau is appropriate, since upon this foundation must be builded the superstructure of future effort.

Beginning in 1910 with a plan of operation looking to the control of hookworm disease, and conducting its operations upon a dispensary basis, the bureau has been gradually enlarged and its effort has been extended until it is now operating upon a basis of intensive community health work looking to the control of the whole class of disease transmitted by soil pollution. Collateral work is done in the medical inspection of schools and in the administration of anti-typhoid "vaccine." The original work done in the relief and control of hookworm disease was the first field work ever undertaken by the State Board of Health. The growth and development of the entire department has been practically coincident with the growth and development of the bureau that has had this work in charge; and this field work has stimulated the public health conscience to an extent that no other effort could have accomplished. It was undertaken in co-operation with the Rockefeller Foundation and was for the purpose



of ascertaining the need for rural health work as well as the prevalence of hookworm diseases. No widespread permanent results followed these campaigns; many thousands of persons were examined, treated and cured, only in many instances to be reinfected because of the complete absence of any measures preventing the wholesale dissemination of infection. Some plan had, therefore, to be devised in order that results might not be of a transient nature.

Since 1915, the year in which intensive community health work was instituted, operations have been conducted in seventy-one counties of the state, and 48,038 persons in 9,509 homes have been reached by these campaigns. The yearly improvement in home sanitation has been from an average of .61 per cent on first inspection to an average of 33.87 per cent on second inspection. It is interesting to note that since beginning medical inspection of schools and administration of typhoid "vaccine," over 8,321 children of rural schools have been examined, and over 8,674 immunizations of typhoid "vaccine" given by the field directors of the bureau. This plan of campaign includes the feature of prevention as well as the features of examination and treatment.

With this as a foundation, what features must be added to the program and what modifications made? The essential weaknesses of the present method are: The brief duration of campaigns; the absence of any provision for future effort by the county. Therefore the ideal method of operation in a county consists, first, of intensive public health operations covering the entire county, which should be conducted under the direction of the State Board of Health. These operations should include a sanitary survey of the county, intensive measures against intestinal disease, examination for, and treatment of intestinal diseases of parasitic origin, county-wide administration of anti-typhoid "vaccine," and county-wide medical inspection of schools. This work could be accomplished at a minimum expense to the county through state operation, and thereby would be builded a foundation upon which future public health activities could rest. A very material reduction in the county death rate would be effected. The

second essential in this ideal method consists in the establishment of a county health department to take over the public health activities of the county at close of the initial campaign. The county health department constitutes a major essential to a permanent betterment of rural health conditions, and is, therefore, indispensable to an adequate program. This department should also be linked up with the state department of health.

What constitutes the minimum requirements in personnel and equipment for effective health work by this department? Perhaps no more difficult question could be asked. One thing is certain—that no set standard of requirements can be established. K. E. Miller, in his article on "Rural Health Work," says that in a county of 30,000 inhabitants the minimal requirements are: (1) A well-trained medical man with an instinct for work, and (2) equipment consisting of (a) an automobile bought and operated by the county, (b) stationery and office furniture, (c) an adequate system of preserving records, (d) office help, if only a child. (2) This standard would call for an annual expenditure of \$3,000. I am inclined to disagree with this view, for it is my opinion that any full time health officer must be given machinery with which to do work. His success as a health officer depends fundamentally upon his ability to educate his public; and since education is primarily divided into the presentation and application of ideas, in demonstrable form, he must have the means at his disposal for the practical demonstration of his ideas, as well as for their presentation. Reasoning from this viewpoint, the minimal requirements in a county of 30,000 would be a personnel consisting of the medical officer, a visiting nurse, and one health inspector, and, in addition, equipment must be furnished as set forth under the outline by Miller. A budget of \$6,000 would be adequate to procure such an organization as well as to provide for its quarters, office help, and records. I believe that the additional expenditures of funds would be amply justified by the results obtained. In providing this budget the proper arrangement with reference to the source of funds would be a co-operative arrangement between national, state and county authori-

ties, each division of government sharing equally. The burden is thereby distributed and the county is only called upon for an expenditure of \$2,000.

The problems met by this organization are infinite, and the first decision of the medical officer must be as to what constitutes his most urgent and immediate problem. In Tennessee he will be called upon to meet these problems in about the order herein mentioned.

Measures for the prevention of soil pollution must be continued and carried to a successful completion. With reference to "contagious" diseases he has a problem which must be met as the emergency arises. Tuberculosis offers a fertile field for work by both officer and the visiting nurse, while malaria, being of sectional occurrence, constitutes a major problem in some sections and is of minor importance in others. Medical inspection of schools should be instituted and carried out upon a county-wide basis at the beginning of the school term. A system of follow-up work for this inspection should be carried out by the co-operation of teachers and under the immediate supervision of the visiting nurse. Other comparatively recent developments in the field of public health, such as rural obstetrics, prenatal welfare work, infant and child welfare work, the venereal problem, and life extension work, offer attractive fields, but should not receive attention which has been diverted from more urgent major problems. A county laboratory is, in theory, a desirable thing. In practice it requires too great a financial outlay, save in counties with a population of more than one hundred thousand, where adequate funds can be had. In the presence of a good state laboratory it is unnecessary.

**The Power of Organized Medicine.**—Properly and efficiently exerted, no power has more infinite potentiality for good in the field of public health than has the power of organized medicine. Since all public endeavor, to be successful, must be provided with funds for its prosecution, organized medicine finds its first opportunity in the securing of these funds.

It is a bold public official who will act contrary to the advice of his physician and the medical profession in his county in

matters of this kind. In actual field campaigns the power of organized medicine is limited only by the effort exerted. No campaign for a better public health in communities, in counties, or in the nation at large can be completely successful without the co-operation of the individual physician and of the medical profession. By the same token, all campaigns, whether in communities or of nation-wide scope will be more successful with co-operation of this nature. With the earnest effort and the co-operation of organized medicine the ideal program of county health work may be attained.

Allow me, therefore, to impress upon you the importance of that duty of all medical men—namely, to prevent disease as well as cure it; for in preventing death and illness we are dealing with the problem upon a wholesale basis, while in treating disease we deal with it, perforce, upon a retail basis only.

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#### DISCUSSION ON THE PAPERS OF DRS. MOORE AND BISHOP.

Dr. William K. Sheddan, Columbia: I fear, Mr. President, you called upon the wrong man to open this discussion. There are two sides to this question and to kindred subjects, and they merit careful thought and careful discussion before any medical organization.

The first paper, dealing with rural sanitation as regards children, mentioned the medical profession in relation to the public, and said that the medical profession could do as much or more than rural sanitary officers. Whether medical men ought to discuss these conditions with their patients and clientele, and warn them in an intelligent way is a question, but if it were done I believe it would materially diminish the death rate from these preventable diseases.

I have been engaged in the practice of medicine for about forty years, and I have watched with a good deal of interest the death increase in children, especially in the community in which I live and in which I do my work. I have almost given up hope of trying to educate families and people in this community as to the proper care of children.

The first thing that comes up in connection with children is feeding. Every child is entitled to



proper feeding, and a child who has a healthy mother can get proper food if the mother will give it proper care. Mother's milk is the one food for the nursing child, and it has been the rule for a number of years to see young women—at least a great many of them—shirk this responsibility. A woman who has two good mammary glands can nurse her baby. I have found that to be the universal rule, but a woman cannot nurse her baby and do the work of half a dozen negro servants, and she cannot do the household work, the farm work, and take care of the baby properly. She cannot leave her child and spend her time over a whist table and raise that child properly. The mother of a child has got all she can do to raise the child. This should be every woman's business who bear children—to raise them properly. If the child is fed on mother's milk until nature indicates the necessity and time at which it can take other food, we will wipe out the gastro-intestinal diseases of childhood and infancy. When a child has attained full growth it is prepared to take care of other foods, particularly after it has its full quota of teeth, and any healthy woman can nurse her baby if she will care for herself properly. That is one of the questions I want to particularly discuss in regard to this subject. This think of turning the child over to a negro nurse to be fed while the mother goes out into society or plays cards, or does something of that sort, is a great mistake. The child is given things to play with, and it gets these things into its mouth, and hence we get an increase in the mortality of infancy and childhood.

The diet of the child, the food of the child, is one of the most important propositions we have to deal with, and if the doctors of this country would impress upon their clientele its importance there would be very little trouble to get the cooperation of intelligent individuals. Of course, mothers can be educated along this line, but these diseases develop by improper food and improper training, and the various organisms which produce the diseases gain access to the individual economy through the gastro-intestinal tract.

I can remember back thirty years ago when the death rate from gastro-intestinal diseases in children was something fearful. I can remember also when a large percentage of the children had some midwife, and when the average doctor did not feel that it was his business to educate people or how to take care of babies. If the medical profession will do its duty, a great deal will be done towards controlling and relieving these conditions. I do not care how many of you go into school houses and talk to the families about these things, very little is accomplished. Dr. Bishop or Dr. West can go into the various rural communities and deliver addresses on these subjects and the people say "all right," and then they go out and forget everything that was said. The aver-

age schoolteacher is about like the average health officer—away below what they should be. The average teacher is teaching for pay; there are very few people teaching school as a business. The average county health officer, as a rule, is some fellow who has not got much internal medicine work to do, and he is usually about the poorest doctor in any community. That has been my observation, and it is largely because the ordinary health officer of a county is poorly paid. Take the county of Maury, in which I live, one of the wealthiest in the state, and the health officer is paid \$240.00 a year. Some one has to make sacrifices for a year or two for that salary. Let us improve in some way the character of the health officers and school teachers, and let the medical profession do its work with the laity at large, and if this is done it will go a long ways towards the solution of these problems.

Dr. William Krauss, Memphis: I think this Association should discuss this subject a little more, as it is very important. Rural sanitation is practically in its infancy, and it is a very difficult problem for one to come in from the outside and stimulate the amount of work and amount of enthusiasm necessary to produce results, because the preconceived notion of the health administration at home is on such a low basis that the scheme is considered Utopian and rather difficult to handle.

When we come to analyze the causes of trouble in country districts and the poorer country districts, we must analyze them from the economical standpoint, purely and simply, because necessarily in the country the cost of sanitation is greater in proportion to the difference in the area per capita of population that has to be handled, and consequently these problems are more difficult from what they are in the city.

Both papers brought out the fact that a very important agency in the development of rural sanitation is the public health nurse who is constantly on the job and who arouses the people at a time when they are in a receptive mood because they have sickness at home. If you approach the man who has no sickness in his family, he is very likely to say, "I am not sick; maybe the other fellow needs this information." But when these people have trouble they are in a more receptive mood, and that is why the public health nurse is a better teacher so far as conveying sanitary information is concerned.

Dr. Enoch H. Jones, Murfreesboro: I think Dr. Bishop struck the keynote when he alluded to the fact that we need education, and in the first place, we ought to educate our county officials, our county courts, to set apart and provide enough means to secure a doctor or a good man, or a paid nurse, to educate the public in regard to sanitary measures throughout the county.

We have been keeping up the vital statistics



of our county in Tennessee, and we find that the mortality rate from preventable diseases in the county is greater largely than in the towns and cities, and we need education along these lines.

A great many counties in some of our Southern states are securing men who devote their whole time to this work. I take it that most of the counties in our state are paying only minimum fees to county health officers, so that we cannot expect them to devote very much time to the work, as they do not get enough pay to devote very much of their time to the work.

I think these papers should be freely discussed and these matters should be brought before our county courts and state officials, so that these things may be provided for in the future.

Dr. Moore (closing on his part): The suggestions that physicians can do this work is a good one. The physician can do a great deal of good. We can instruct people in regard to the prevention of disease and about sanitary conditions, but can we enforce it? We need something more than simply the physician giving advice.

Let us take the contagious diseases. I might tell the parents that this or that child has measles or whooping cough, or some other contagious disease, and that the child should not mix with the well, but unless there is some authority to tell them that they must keep their child at home, and see to it that they do so, that they do not go to hurch with this child, that they do not get on a train with this child, how are we going to prevent these contagious diseases? It is true, we can give them advice, but we need some health authority or health board that will not only tell them what is the proper thing to do, but see that they do it.

When we can get a health board in every county that will keep in touch with all the cases of infectious diseases of childhood, and the health officer keep fully in touch with every case, the physicians in the county may be induced to report every one of these cases. But they do not do it now. I do not do it; others do not do it, and the health officer does not give enough attention to the subject and call on us for reports. If I report such cases, there is no other doctor, perhaps, in the town that does it, and I am not likely to send in a report when no other physician does it. The health officer does not remember the cases except in rural communities; he has not a complete report of these cases. If we could have a health board in every county with a man at the head of it—a man in a county of thirty thousand people—who could devote his time and attention to the health of the county,

he could accomplish a great deal. He could keep in touch with these diseases which are spreading, be on the lookout for epidemics when there is a houseful of children sick and suffering, and make every effort to separate the well from the sick. A mother feels that her child is born to have these diseases and is going to have them, and the child might just as well have them now as at any other time, and she thinks the time will come when the child will have them. I do not believe in such a notion, and therefore I do not think that a mother should feel that her child is to have these diseases. That is the principal point I emphasized in the paper. We want authority to teach mothers to keep their sick children at home, and a little advice from the doctor will not do it.

Dr. Bishop (closing): I have several times had the pleasure of coming in contact with Dr. Shedden in medical societies and this is the first time he has ever agreed with me.

With regard to the medical profession and public education, I think I stated very clearly in my paper that the medical profession has a greater influence than the average public health officer. Why? Because there are more medical men than there are public health officers, naturally.

I think any county health officer who is here will agree with me that the average county health officer is a joke. He has no interest in the work because he is not paid for it. I don't blame him. He has not the time to devote to public health work, because he is not paid for it. We will not be able to materially improve the sanitation and medical inspection of schools in Tennessee until some county health department is installed, and a one-man organization will not do it. It is a vast improvement over what we have, although it will not accomplish the task completely. It has been tried in some counties in other states, and I understand there is, with one exception, no county where it has proved successful.

The public health nurse has been favorably mentioned in this discussion, and I am heartily in accord with everything that has been said in this regard. She meets the people and has a duty to perform, and she has a field in which to operate that no one else can very well fill.

As to public health legislation, so many people are of the opinion that when you enact laws you have a cure for every existing evil. This is by no means true. The execution of a law is based on public sentiment, and you must first educate your public and get public sentiment back of you before you can cure any evil by legislation.

## LABYRINTHITIS ACCOMPANYING ACUTE PURULENT OTITIS MEDIA.\*

By Julian B. Blue, M. D.,  
Memphis.

At this time, when labyrinthine conditions are receiving so much consideration from otologists and neurologists, contributions to the literature of clinical observations cannot come amiss.

Diffuse labyrinthitis complicating acute otitis is a rare condition. Of 96 cases of labyrinthitis recorded by Ruttin in his book on the labyrinth, 81 accompanied chronic inflammation, 10 in subacute otitis, and five in acute otitis. When one considers that the 96 cases of labyrinthine affections are had from thousands of cases of middle ear supuration seen in the Urbantschitsch clinic, and that only 5 of the 96 were in acute otitis, some idea is given as to how often it occurs.

It is a very fortunate thing that such conditions are rare, for the danger to life is very grave, from the ease with which a meningitis can be developed. If this is escaped, the hearing is almost sure to be totally destroyed, as it was in this case now to be reported here.

The five cases mentioned by Ruttin were all designated by him as "diffuse purulent manifest labyrinthitis." Whether this case now being reported was purulent or simply serous it is impossible to state, as the patient recovered without operation.

Just how the infection gets into the labyrinth is also an impossible question to answer, unless the case comes to operation or to post mortem.

There may be a dehiscence in the bone, or it may spread through the round window or through the annular ligament. It is possible for bacteria to transmigrate in this manner. The clinical picture of sudden destruction of the labyrinth is very striking. It resembles, somewhat, Meniere's disease.

There is extreme vertigo, nausea, vomiting, tinnitus and prostration. The patient feels

most uncomfortable. There is nausea and vomiting and everything seems to be "going around and around"—a rotary nystagmus is observed. The patient feels more comfortable if on the sound side, and the dizziness and other unpleasant symptoms are less marked when looking toward affected side. Photophobia was marked in this case.

The slow component of the nystagmus is toward the diseased side and the cerebral toward the sound. The nystagmus, vertigo and nausea are increased when the patient looks toward sound side and diminished when looking toward diseased side. The nausea and vomiting may disappear quickly or remain a few days. In this case the nystagmus disappeared very quickly, so that at the end of twenty-four hours after onset it could only be elicited by having the patient look toward the sound side.

It is probable that cases of this kind exist more frequently than we think, for the symptoms might not be associated with an ear disorder, and an otologist might not be consulted. It might be called a severe "bilious attack," or the like. Of course, the symptoms in this case were sufficient to make the diagnosis very clear, and no one would think of subjecting a person so ill to the turning tests, for this procedure might of itself be enough to cause the infection to go to the meninges.

The hearing in this case was totally absent. This was elicited by using the noise apparatus in the sound ear. It is only by the use of such apparatus that we can say for sure that an ear is deaf.

Hearing is the first of the labyrinth functions to disappear, according to the teachings of Ruttin. Treatment in these cases should be on the expectant plan. As long as there are no symptoms referable to involvement outside of the labyrinth, surgical treatment should not be considered, for the operation itself could cause the infection to go the meninges. However, should there become evidence of intracranial involvement the labyrinthine operation should be considered. In this case the treatment was rest in bed, ice cap to mastoid and irrigation of ear and urotropin internally.

The question of compensation comes up. I

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haven't had a chance to turn this patient, as she lives out of the city, but I hope to be able to do so some time to determine if there is a compensation for the lost labyrinthine functions. That is, the vestibular part; for the hearing is gone.

**Case Report:** Mrs. G. C. White, age 30. Previous general health good. No previous ear trouble.

Was first seen September 11, 1917, with this history: Had "cold" for about two weeks. Pain began in ear previous night, very severe; physician called and had to give morphine hypodermically to quiet. She was advised to come to Memphis for treatment. I saw her at 4 p. m., finding the ear drum congested and bulged. A small amount of bloody serum in canal. The ear was giving considerable pain at this time. No pain on pressure over mastoid. A free incision was made in drum and in half an hour patient felt much better and suggested that she return to her home in Arkansas. I advised her to go to the hospital for the night, as she had so much pain the previous night. This she did. Went to sleep about nine o'clock; ear entirely comfortable since shortly after incision in drum.

Was awakened about midnight with intense nausea and extreme dizziness. Felt as if she was whirling around at rapid rate; vomiting. I did not see her until 8 o'clock in the morning, as the nurse did not call me when the labyrinthine symptoms began.

At this time she was very miserable from the dizziness, nausea and vomiting. Also complained of photophobia; unable to raise head from pillow. Examination of eyes showed a marked rotatory nystagmus, with slow or labyrinthine component to affected side. Symptoms lessened by looking toward affected side and increased when looking to well side. Most comfortable lying on sound side. No pain in ear. Profuse serous discharge.

Hearing tested, but not satisfactory, as did not have noise apparatus with me, but when tested later with noise apparatus in sound ear, she was found to be entirely deaf. She developed mastoid symptoms of a mild degree during the day, which continued for some days. The nystagmus greatly disap-

peared during the next twenty-four hours, so that on second day of the labyrinthitis only a slight amount could be noticed, and then only when looking toward well side. This disappeared in a few hours. The other symptoms gradually disappeared, and on tenth day she was able to sit up in chair. Returned to her home after two weeks in hospital. At this time she was able to walk about slowly, but would have attacks of dizziness at times.

Seen two months after onset, when ear had ceased to discharge and drum was normal. Had had no dizziness for two weeks. Totally deaf in this ear.

Treatment received: Ice cap to mastoid, frequent irrigation, rest in bed. Of course operative treatment was considered, but fearing the possibility of setting up a meningitis, decided not to interfere unless symptoms were most urgent. She was watched carefully and kept absolutely quiet.

Pathologist's report, pneumococcus in pus.

#### DISCUSSION.

Dr. Louis Levy, Memphis: This is indeed an interesting case. It is interesting for several reasons, but especially so because in the morning we are demonstrating the methods used in examining the vestibular apparatus. I am inclined to believe that Dr. Blue's case is more of a hyperemic labyrinthitis, secondary to condition reported, than one of purulent condition, due to the manner in which the patient recovered; especially since the mastoid was not involved and it followed an acute suppurative otitis media. He called your attention to the vertigo and nystagmus, which was very pronounced. The nystagmus from a labyrinthine condition can easily be diagnosed, as you all know, from the fact that there is a long and short pull. The long pull in labyrinthine conditions means nothing, as it is a cerebral reflex action and for that reason it is important to know whether you have a labyrinthine or an optical nystagmus. The nystagmus from a labyrinthine condition is very pronounced at first and gradually disappears, while a nystagmus caused from a central lesion becomes very pronounced. Some hearing in many of these cases returns, although never perfect. However, this case shows how, even in the early treatment and relief of same, hearing may be lost for good. It would be interesting to turn this case for the reason that if the internal ear is completely destroyed you will find that you will have only one side in order. In other words, when this case is put through the vestibular tests the left ear will give no reaction, while the right will give its



two-thirds and one-third, as the case may be, on turning to the right or left. These reactions will be explained to you tomorrow.

Dr. Potter: I would like to ask Dr. Levy to explain to me about this long and short pull.

Dr. Levy: This I will explain tomorrow.

Dr. J. B. Blue (closing discussion: I think, like Dr. Levy, the case was not a purulent labyrinthitis, for I think she would probably have died if it had gone that far; but she had a total destruction of her labyrinth, in my opinion, both vestibular and cochlear, because she had the marked vestibular symptoms, vertigo, nystagmus, etc., plus the loss of hearing. I want Dr. Levy tomorrow to tell us something about compensation after destruction of one labyrinth.

### FLAGELLATE DIARRHOEA.\*

By Jack Witherspoon, M. D.,  
Nashville.

In the last few years, and more especially during this last year, there has occurred in this section a new form of dysentery. I refer to that associated with and perhaps caused by the *cercomonas hominis* (Davaine). It is well recognized that chronic diarrhoea from one cause may predominate in one section of this country and from this same cause may be rare in another section.

A popular "Differential Diagnosis," published in New England, classifies chronic diarrhoea and puts pernicious anemia before pellagra. Amoebic infection and hookworm disease come first in our minds.

This organism of flagellate diarrhoea is taken by most workers in the field to be pathogenic, especially when found in large numbers in the stools. The finding of intestinal parasites in the stools of so many cases have encouraged us in making a routine stool examination and carefully taking the histories of patients' illnesses.

Much confusion exists as to the nomenclature of flagellated protozoa found in the stools. Much of this is due to the inferior methods of old observations, and in recent years, because the workers, being unacquainted with previous work on the organ-

isms, have given them different names, so that many of the reports are misleading.

**Organism.**—The organism is a protozoa of the flagellate group, pear-shaped, no undulating membrane, a few vacuoles, some small granules. It is ten to twelve microns broad, sixteen to twenty microns long and has a single long whipping tail (flagellum). It does not show amoeboid movement, but is very actively propelled by this long tail. Practically it is less than half the size of an ordinary entamoeba and about twice the size of a red blood cell. It is very active in freshly voided fecal material, and is seldom rendered immobile by diluting with normal salt or tap water.

We think this organism the same as first described by Devain (1) in the stools of cholera and typhoid patients in 1854. This organism has been found in the stools by various observers. On the continent, and especially in Germany, by Erkecrantz (2), Tham (3), Mueller (5), Massiutin (6), Lutz (7), Zunker (8), Skaller (9), Stube (10), Cohnheim (11), Perroncito (12); in Italy by Grassi (4), in Russia by Ueke (13), in Egypt by Kartulis (4), in England by Cunningham (15), Wenyon (16). It has been held responsible for many severe and fatal infant diarrhoeas on the continent by Von Jakseh (17), Cahen (18), Epstein (19) (fourteen deaths) reports many fatal cases from Prague in children.

In India it has been described by Chatterjee (20), and in Mesopotamia by Cragg (21).

On this side it has been found by many observers. In South America by Escomel (22), in Peru, who reports an epidemic of one hundred and fifty-two cases; by Mello-Leitao (23) in Rio de Janeiro in children, and in many other localities. In this country its general distribution may be illustrated by mentioning the following localities where it has been found in the stools: North-Northwest, Sistrunk (24); North, Middle West, Smithies (25), Freund (26), Rhamy and Metts (27), Doek (28); Southwest, Doek (29), Prentiss (30), McNeil (30); South, Elliott (31), Simon (32), Barlow (33); California, Pollock and Pickard.

This is not intended to be a literature review even on a modest scale, but only to call attention to the fact that this organism is

\* Read and annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

widespread in its distribution. Much confusion exists as to the nomenclature of flagellated protozoa found in the stools. We are now starting some experimental work on the pathogenicity of this organism, also some work on its life cycle and reproduction forms. The results will be published at an early date.

**Symptomatology.**—The patients complain of looseness of the bowels, frequent watery stools, diarrhoea. There may be six to ten stools a day, or more, or there may be a formed bowel action in the morning, followed by several watery stools. There is not the bloody mucus with tenesmus of amoebic dysentery nor the ropy mucus free of blood or fecal mottler of the neurotic with colitis, but more of a frequent non-fermentative watery action such as is seen at times from other small intestine affairs, hookworm disease or typhoid fever.

As in pellagra and amoebic dysentery, there is given a history of seasonal activity and at times may become quite acute in their distress. The patients lose weight, they have abdominal discomfort, their appetite is not what it should be, and they are dyspeptic. Frequently they are anemic and their blood shows a mild leucocytosis and an eosinophile increase. Their skin is dry and they are low in spirits.

We have had some rather decided views on amoebic dysentery. Putting a patient in a hospital and keeping him in bed, with enemas and local applications we have been able to relieve a good proportion of these amoebic dysentery sufferers until we began to run into this organism as a complication. And when we found they were not removed with ipecac nor quinine, nor thymol, nor chenopodium, nor methylene blue, nor calomel, and that the patient would return in a few days with his diarrhoea a little changed but still a diarrhoea, we began to regard this organism as one with some pathogenic properties. We have records of some thirty cases of this infection, in about half of which cases this organism, *Cercomonas*, occurred in conjunction with some other parasites, usually the endo-amoeba. A few times it was found in routine stool examinations when there was no complaint of diarrhoea. Once it occurred in abundance in a severe splenic anemia of the

Banti type, and one of this patient's loudest complaints was of diarrhoea.

Of the symptoms, loss of weight was probably most constant. Weight loss ranged from 8 to 65 pounds. Next in order was anemia, then diarrhoea and abdominal cramps. The abdominal pain in our cases was not a tenesmus nor anything more than a discomfort and sense of restlessness of the bowels.

Our cases have been more or less chronic affairs, and we have not seen the seriously ill people described by Rhomy and Metts (in their epidemic there were seventeen deaths attributed to this disease).

**Methods for Examination.**—We have our patients take a saline laxative and the second bowel movement, or the last part of the first, is saved for examination. A drop is transferred to a warm slide, a cover slip is used, and examined under one-sixth objective with which the organisms may be found.

In uncomplicated cases the specimen is seen to contain a little but not much mucus. Blood, which usually may be found by chemical test, is not present in the quantity found with the amoeba. The meat fibres are poorly digested and there is usually a great excess of saphrophytic bacteriae. Staining is not needed for detection of the organisms, nor has it been necessary in our case to concentrate the stool.

The organism moves for hours at room temperature, and, on drying, enters the encysted stage, from which it may be cultivated by certain means.

**Pathogenicity.**—This organism is usually referred to in text-books as a harmless inhabitant of the intestinal tract. Literature is scant on proof of its pathogenicity, though most writers for the last few years have regarded it as one that in large numbers offers mechanical insult to the intestinal mucosa. The organism, because of its tail, is a free swimming one, and biologists have been slow to believe it can penetrate the gut wall or even attach itself thereto if the common active form and the cyst form are its only physical forms. It is regarded by Castalia as an inhabitant of the small intestine and only of the large intestine "at times." As above stated, we expect to support our own work on its pathogenicity later.

**Treatment.**—Methods and drugs in common use for other intestinal parasites have given us poor results here. Castall and Wily found methylene blue, 1-3000, would kill the organism. Methylene blue was given by us, 2 gr. t. i. d., and daily enema, 1-1500 to 1-500, to point or bladder tolerance without results that lasted.

Ipecac nor its salts will not destroy them, nor will enema, except to cleanse the colon of the parasites. Smith uses calomel, gr. v, followed by Epsom salts, every five days. This method has some adherents. Simon used various medicines through a duodenal tube, and appendicostomy has been advocated. Kaolin has been used. We have lately gotten what we think dependable results from calomel followed by Epsom salts and this repeated till the cercomonas disappear, then through the continued daily use of milk of bismuth for several weeks.

I wish to express my appreciation to Floyd Arnold, of Vanderbilt Medical Department, for assistance in compiling our bibliography, and to Capt. R. C. Deriveaux for valuable abstracts and to Dr. J. A. Witherspoon for assistance in clinical observations.

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#### DISCUSSION.

Dr. John L. Jelks, Memphis: I was to read a paper on a similar subject touching the needs of our health authorities and others relative to the increased frequency of this form of infection in this section of the country.

For several years I have been calling attention to and insisting that this form of infection was producing pathology when others were thinking it was of no consequence at all. I am seeing today at least six times as many cases of cercomonas intestinalis infections as I saw six years ago. For what reason you may wonder.

The sources of food supply, the contamination of gardens and truck patches with human excreta, play an important part in the causation of these infections. If the nation, the states and cities do not wake up, within the next decade amoebic, pellagrous and cercomonas infections will be one of the greatest calamities of this country.



I have watched the sources, and I am convinced that in almost every instance of pellagrous infection and amoebic infection there is a precedent cause within a short distance, yet there are no restrictions put on our hotels, our restaurants, our truck patches, or anything else when we come to eat our meals. Today when I ordered my steak it was garnished with water cress and plated in lettuce. I don't want any grass about my food.

I cannot enlarge upon the doctor's description of this infection. I can say to you the pathology which he did not touch upon is exactly like that I find in pellagra. I am speaking now of gross pathology; I have not got the minute pathology in these cases. The parasites which produce this form of infection and pathology are in the ileum, and they are simply washed down the gut, and it is one of the most difficult forms of gut infection to get rid of. I have had physicians write me about this form of infection from one end of this country to the other. I remember one doctor whose son had this form of infection in Fort Worth, Texas. He had tried all the remedies referred to by the doctor and by others with absolutely negative results.

As to the symptomatology, I referred yesterday to a drunken feeling. The loss of weight, the melancholy, the eosinophilia, the diarrhoea, is not the same as amoebic diarrhoea, but is apparently about the same as a pellagrous diarrhoea. Associated with this condition is colon bacilluria, and in this lies the secret of the toxemia. We have not yet learned what toxemias of colon origin mean; we have not learned the extent of them, the fearful dangers of the toxemia when we break the continuity of the gut.

Years ago a distinguished surgeon in New York stated, and I saw the wisdom of it, that the American people do not realize the dangers of the colon bacillus. We have in these cases oftentimes mixed infection, and for a number of years, when I found these animals associated with the amoeba histolytica, I did not pay very much attention to them as I do now. If you remember, I said that they produce a pathology distinct and different from amoebic infection, a superficial pathology, whereas amoebic infection produces a deep, submucous and even muscular and submuscular destruction. Therefore, oftentimes there is ample proof of the symptomatology and destruction of tissue.

As to the treatment, the first thing to do is to flush the gut out thoroughly and get rid of the associated infections.

Recently I had a case that had hookworm infection, amoebic infection and cercomonas infection, the case having been referred to me by one of our Memphis physicians. I had to get rid of these three infections. I flushed the gut out and got the rest of the intestinal contents liquefied.

Don't give these animals a hiding place. Introduce into the gut an antiseptic that is destructive to them. What is it? First, your methyl phenol salicylate in large doses. Don't be afraid of it. Add to it, if you like, sulpho-carbolate of zinc, which is a good antiseptic for the gut, and then give enormous doses of bismuth subnitrate and sulphur. Is not that simple to use? Don't hesitate to give sulphur. It will not hurt these patients. Give teaspoonful doses of subnitrate of bismuth and teaspoonful doses of sulphur every three or four hours, and you will cure your cases unless you have mixed infection. There is but one reason for ceco-appendicostomy or appendicostomy, and that is a mixed infection which oftentimes supervenes in these cases.

Dr. Herman Spitz, Nashville: During the activities of the Rockefeller Sanitary Commission in this state, I had occasion to examine an unusually large number of specimens of feces, and the cercomonas intestinalis were found frequently. The specimen need not be soft in order to find them, although this does make its discovery easier.

This organism, I believe, is capable of producing considerable pathology. My belief is based upon the practical relief of symptoms in treated cases where this organism was found, sometimes alone, sometimes along with other organisms. Two cases, which come to my mind, are instructive.

The first is that of a man some sixty-five years of age, who had been suffering with chronic diarrhoea for thirteen years. During this time he had consulted a number of physicians, but his feces had never been examined. At the time I was called in consultation, this man had lost over 60 pounds in weight. He was having a large number of small bloody, mucous stools every day, and these were very suggestive of amoebic dysentery. A very thorough and repeated search of a number of specimens failed to reveal amoeba. However, we found hundreds of cercomonas intestinalis in every drop of the feces, also blood, pus cells, mucus, degenerating intestinal cells, etc. Mentally, this patient was at this time delirious, and his attending physician said he had been unbalanced for some time. He was immediately put on large doses of flowers of sulphur and other intestinal antiseptics, but after persistent use there was no amelioration of his symptoms. He was then put on emetine hydrochlorid, hypodermatically, following the same method as for amoeba. His condition, after the first week's treatment, began to improve steadily, and he finally cleared up as far as his diarrhoea was concerned. Mentally, he remained cloudy and was finally sent to a sanitarium, where he remained some six or seven months, being discharged as cured. Repeated examinations since his discharge have failed to reveal any cercomonas. He

has regained his weight, now 140, and is in excellent health. This man, being in excellent financial circumstances, could not have gotten his infection from dirty surroundings, but probably on some garnishings at a meal, lettuce, water cress, etc., as has been suggested.

The other case is that of a boy four years old, who gives the history of dirt eating. This child is unusually large for his age. Has intermittent attacks of diarrhoea and constipation. His father had amoebic dysentery and the child was being examined for the same infection. *Amoeba coli* and *hystolitica* were found, together with large numbers of *cercomonas*. Emetine was used and later the child's stool was again examined. The amoeba had disappeared, but the *cercomonas* were still present, though not as numerous. Sulphur and other antiseptics were used, the *cercomonas* persisting. Emetine was again used, and the *cercomonas* finally ceased to be found. Some time later this child passed a round worm and *santonin* and *calomel* was given, but no more worms were passed. (Since this discussion this child has again been brought to me. He has had a severe attack of mucous colitis. His physician wanted to know if any of the intestinal parasites had made their reappearance. After prolonged search of a number of smears, several *cercomonas* were found. I do not believe these persisted from his previous infection, but am inclined to think that they were a reinfection, because the child is a dirt eater. He is again on emetine and it will be interesting to follow this case.)

From my observation of *cercomonas* infections, I firmly believe that our best therapeutic agent lies in emetine, used in precisely the same way that we use it in amoebic infections. I have yet to see sulphur or other of the agents mentioned by the essayist relieve these cases, although they may improve.

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### EXTRA-UTERINE PREGNANCY.\*

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By J. Hugh Carter, M. D.,  
Memphis.

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There are but few subjects in the whole range of medicine that should excite more interest than extra-uterine pregnancy, in both the general practitioner of medicine and the surgeon.

One of the greatest of all of the mysteries of life, I might say, until the past few years,

was that an ovum did become impregnated and developed into a living child outside of the uterus or womb. Therefore, this extraordinary phenomenon is grave, and becomes more so by the dreadful possibilities of the situation, as well as the outcome, which may at any time determine a doubtful diagnosis and rob the poor woman of her life. For these reasons, and because nearly all cases at first fall into the hands of the family physician, it is therefore important that we should know more about the subject and be able to make a correct diagnosis and to institute the proper means for relief, and not wait for the surgeon to make the diagnosis. Until the past few years, extra-uterine pregnancy was thought to be extremely rare, but we know now that it occurs quite often, if it is not common. There are comparatively but few physicians who have been in practice for two or three years who have not seen a case of extra-uterine pregnancy.

It has been proven that many of these cases of irregular menstruation associated with colic, tympanitis, and pain on moving about, possibly with slight fever, which pass off without very little treatment other than rest in bed and a mild laxative are in reality early attacks of extra-uterine pregnancy. Therefore any irregularity or deviation from the normal during gestation should attract our special attention.

It may be said that extra-uterine pregnancy in its early stages belongs to the family physician, but as soon as the diagnosis is made the case should be transferred to the surgeon. When we have seen one case the diagnosis, thereafter, is more easily made. In order to make an early and correct diagnosis and to grasp the subject properly, we should know the cause and course of extra-uterine pregnancy if left alone.

Extra-uterine pregnancy may occur anywhere along the tube or in ovary. However, the ovarian type is very rare. The most common is found in the ampulla and isthmal portions of the tube.

It is now known that the spermatozoa travel up the uterine wall, enter the tube and continue downward until they meet the ovum at or near the ovary, this by its own propulsive movement, while the ovum, which

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is much larger, must be carried out through the tube by other propulsive power. Therefore, anything that would interfere with, stop, or retard the movements of the ovum along its course through the tube might be said to be one of the causes of extra-uterine pregnancy. Any pelvic adhesions that would cause a blocking or loop of the tube would obstruct the progress of the ovum; tumors of the tubal mucosa or fibroid of the uterine cornua blocking up the isthmal portion of the tubes; tubo-ovarian cyst, by causing a twist in the tube, and inflammation of the tubal mucosa by which its cilia, which are the propelling power of the ovum, are destroyed; diverticula in the tube sometimes stops the ovum; and any pressure from within or without that would cause a blocking of the lumen of the tube, would be a cause.

From these facts it will be seen that not one, but many, causes operate to bring about extra-uterine pregnancy, which are not confined to a woman of given locality, but are found wherever there are women to become pregnant. The direct cause in any one case can only be determined at the operating table or in the pathological laboratory. The operating room has proven one thing—namely, that women who have had one extra-uterine pregnancy are more liable to another, and that it rarely occurs in the normal woman—that is, one that has not had some pelvic inflammation or irregularity during her menstruation. This is the class of cases we should observe and watch after very closely.

Accidents which may happen to the foetus are many, but usually death ensues, caused by rupture of its sac or by tubal abortion when it slips out into the abdominal cavity. Sometimes it becomes encapsulated by hemorrhage, which cuts off its nourishment and the foetus therefore dies. It is very rare that the foetus goes on to term. In case it does, false labor pains come on and, if the correct diagnosis is not made at once and the foetus removed by abdominal section, it dies and begins to undergo degeneration. Rupture may take place into the broad ligaments or peritoneal cavity.

**Diagnosis.**—We may consider the symptoms before and after rupture. Before rupture we usually have a patient who gives a

history of a suspicion of pregnancy—that she has not been as regular for the past two or three months with her menstruations as usual, pains and passing clots of blood and shreds of mucus. The pain, soreness and menstrual flow are increased on exertion. The patient very frequently believes she has aborted.

Extra-uterine pregnancy usually occurs in women that have not borne children for some time and have had more or less trouble during their regular monthly sickness. On physical examination we will find a tumor usually situated to one side and boggy to the touch, with more or less pain when pressure is exerted on the tumor. The uterus is somewhat enlarged, but not in proportion as it would be in uterine gestation.

After rupture, the first symptoms are pain, cutting in nature, coming on suddenly and situated to one side with more or less shock. Of course, this would be governed by the amount of hemorrhage; at this time or soon after we have a bloody discharge from uterus. Extra-uterine pregnancy may be mistaken for appendicitis, salpingitis, or an ordinary uterine abortion, but from a careful history and study of the case the correct diagnosis can be made.

**Treatment.**—The treatment is surgical, but there is much that can be done while waiting for the surgeon to arrive or while getting the patient to the surgeon. If rupture has taken place in the abdominal cavity, there will be profuse hemorrhage and we have but little time to waste. The patient should be kept absolutely at rest in bed, with ice packs to abdomen, and morphine to keep patient quiet. Rupture in other parts are treated the same way, but not so heroically.

I will not go into the surgical technique, but will say we should operate in all cases as soon as possible, as we never know when severe hemorrhage is going to take place, even if it has seemingly been controlled. As to just what operation should be done, I do not believe any one can say until the abdomen has been opened; then do whatever the operator thinks best. In other words, each case and condition found in the abdomen is a law unto itself.

I have had six cases, ranging from six weeks to four months, all of which were op-



erated upon and made nice recoveries. In conclusion, I wish to insist upon a careful and painstaking diagnosis in each case of suspected extra-uterine pregnancy as early as possible, thereby giving the patient a much better chance for her life.

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### AN UNUSUAL MASTOID CASE.\*

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By W. Likely Simpson, M. D.,  
Memphis.

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The history of this case is as follows:

Mr. W. M. Perry; age 35 years: Two and one-half months ago patient had an acute abscess in the right ear. The ear continued to discharge, gradually becoming less up to ten days ago, when all discharge stopped. There has been some fullness and pain in the ear, but at no time severe. Patient says that ten days ago there was some swelling in the region of the mastoid, gradually going away, and that the last two or three days there has been no swelling. There was some pain at the beginning of the swelling.

The findings in the ear at the first examination were as follows: Right ear drum slightly dull, but the same as the left ear. There was no mastoid swelling, redness or tenderness. The external meatus was normal. The ear inflates normally. Hears a whisper at twenty feet. Rinne negative. Bone conduction slightly longer than normal.

At the end of the examination I told the patient that it seemed as if a very little treatment would be sufficient, and that he would hardly need an operation of any kind, but that to make sure it might be best to have an x-ray picture made, which was done at that time by Dr. Henry G. Hill. As you can easily see from the pictures, the right mastoid is quite definitely different from the left and very probably would be found pathological. Considering the rather indefinite history of mastoiditis and the very positive x-ray

findings, it seemed best to operate, which was done the same day.

**Operative Findings.**—Soft parts were normal. Cortex was hard and apparently normal, but after getting well through the cortex all of the cells of the mastoid were found to be pathological. Several of the large tip cells were full of yellow pus and towards the antrum and in the antrum more mucus and granulation and not so much pus were found.

After completing the operation a small piece of packing was placed in the wound and the whole wound was sutured, allowed to heal by blood clot.

The man made a very quick and uneventful recovery.

It seems to me that such cases should be reported, as so seldom do we see such extensive pathological changes in the mastoid with so few physical signs and symptoms and so few abnormal findings in the ear. To find the drum normal and the hearing normal in extensive mastoid disease, as they were in this case, is certainly anything but common. Of course, if there is no rupture nor extensive disease of the cortex of the mastoid, one might have considerable mastoid inflammation, but usually there is at least considerable tenderness, if not swelling of the mastoid, where there is so much pathology as this case presented.

This kind of case, it seems to me, is much more dangerous to the life of the patient than the ordinary mastoid, as when the symptoms are so few one could easily overlook the condition entirely. In this the cortex of the mastoid was so firm that the brain and sinus complications were very liable to occur.

Last, but not least, it should be said that a positive diagnosis of mastoid involvement could only be made in such a case by the use of the x-ray. It seems to me very improbable that any one would have opened this mastoid without the x-ray findings, and without an operation brain and sinus complications would very likely have taken place.

In all mastoid cases the x-ray is an aid in diagnosis and in all doubtful cases it should be used, since many times the deciding information will be thus secured.

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## VOMITING AS A SYMPTOM IN CEREBRAL DISORDERS.\*

By B. F. Turner, M. D.,  
Memphis.

Closely associated with vertigo as a symptom in cerebral disorders is vomiting. One becomes so habituated to think first of disorders of the digestive tract and of the abdominal viscerae when this symptom appears that one is prone to overlook its significance as a symptom of remoter disturbances, unless one is alert in analyzing symptom complexes. In this contribution I shall have nothing to do with vomiting caused by other than disorders of the central nervous system.

As to the phenomenon of vomiting, the forcible evacuation, by revulsion, of the contents of the stomach, its mechanism appears to have to do with the pneumogastric nerve. We are very well aware that irritating contents of the stomach cause a tendency to their ejection. This is believed to be due to irritation of the terminal filaments of the pneumogastric in the stomach. And that the same phenomenon may be evoked by irritation of the central end of the nerve would seem to follow by analogy from our knowledge of other nerves, especially the cranial nerves. That is to say, central stimulation of the auditory nerve gives false sounds in the ears; central stimulation of the optic nerve gives impressions of flashes of light; likewise with the hypoglossal and the glossopharyngeal. No vomiting center can be demonstrated. But vomiting as a symptom is so commonly associated with cerebral and cerebellar pathology, especially at the base and in the pontine region, it would seem that the conclusion is justified that a so-called vomiting center does exist, or else that the extensive nuclei of origin of the pneumogastric act as such.

The close association of the act of vomiting with disturbances of the central nervous system, either pathological or physiological, is very well known—e. g., seasickness, which is produced by reaction on the brain of the

disturbances of equilibrium through the function of the ampullae; the vomiting which often is found to follow violence to the cranium through blows, falls, etc.; that which is found associated with tumors, abscesses, meningitis, and apoplexy.

There is nothing about the act of vomiting which certainly marks it as of central origin. But still it has certain characteristics which are suggestive of that source. Vomiting caused by central disturbance is likely to occur without the appearance of much, if any nausea; to occur with extreme suddenness; and to be violently projectile in character. Of course in these particulars there must be a wide range of difference in different cases. Still, the practiced eye comes, after a while, to recognize these peculiarities. But, upon the whole, it cannot be said that there is a certain character to central vomiting by which it can be recognized every time. It is only by taking into account the history of the case and the associated symptoms that the act can be reasonably identified. If it be not identified, however, it can lead the diagnostician far astray.

In the first place, the persistency of the symptom should be regarded. Any vomiting due to gastric or other disease of the abdominal viscerae which extends over a long period would be likely to cause a condition of malnutrition which would be evident. Cerebral vomiting is less likely to occur, in point of frequency, sufficiently often to interfere with the general nutrition. Secondly, vomiting of centric origin is likely to occur suddenly and be very forcible—"projectile," as it is called. Thirdly, vomiting of centric origin is not characterized by pronounced nausea. Without much, if any, warning, in the way of nausea, with powerful expulsive force, and with little if any of the gagging and retching afterward which characterizes the vomiting of gastric disorders, the patient emits a shower of greenish or colorless water, if the stomach be empty, and it is all over, for the time being.

Then, vomiting of centric origin is only one of a symptom complex. Of its concomitants, persistent headache should be noted. Intracranial pathology is very likely to be characterized by persistent headache. Vertigo, if

\* Read at annual meeting of the West Tennessee Medical and Surgical Association at Dyersburg, May, 1919.

present accompanying vomiting, would very strongly suggest cerebellar pathology. Choked disk, hemianopsia, and oculo-motor symptoms, accompanied by persistent vomiting, would strongly suggest centric source; likewise, localized muscular weakness anywhere.

As to the particular lesions of centric character which may be the cause of vomiting, they may be summed up by saying all irritative lesions of the brain stem; all lesions which cause intracranial tension; lesions of the middle ear. Under these various heads would come meningitis, brain tumor, brain abscess, various apoplexies, hydrocephalus, and otitis media and its complications, and also traumatism of the head, with or without lesions of the cranial contents.

In short, in this day and time, it is not sufficient that the symptom of vomiting be dismissed with the offhand opinion that the patient is bilious, or has eaten something that has disagreed with him, or has chronic appendicitis, etc. A quick, short attack of vomiting, without much nausea, is suggestive; such attacks persisting, still more so; accompanied by persistent headache, very suspicious; and with choked disk present, the evidence is almost certain of trouble at the centric end of the pneumogastric.

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**IMPORTANCE OF AROUSING AMONG THE GENERAL PRACTITIONERS A MORE INTENSE INTEREST IN THE EARLY DIAGNOSIS, TREATMENT AND PREVENTION OF DISEASES OF THE MOUTH, ESPECIALLY PYORRHEA.\***

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By J. R. Carroll, M. D.,  
Henderson.

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I will say in the beginning that I have been intensely interested in the various diseases of the gums, teeth, mouth and throat for many years, and especially in decayed teeth, pyorrhea and the effects of these diseases—not by any manner of means as a dentist, but from the physician's standpoint only. I have

always been on the most social and familiar terms with the dentist—in fact, I have always considered dentistry a department of our profession.

For many years I have been very greatly disappointed in the seeming neglect of the general physician to be even interested in the early manifestation of the diseases of the gums, mouth and teeth, when all well informed men say such disease is largely preventable. By your permission, gentlemen, I will give you a few cases reported by our leaders in our different journals.

In an address on the control of dental infections, C. H. Mayo, of New York, 1918, said, among other things, that diseased teeth are often foci of infection and that the x-ray has been of inestimable value in determining the alveolar abscesses, absorbed roots of teeth or absorbed bone about the roots. He says the findings are striking when positive, but that many pockets do not show in an apparently good picture. The dangerous tooth is the crowned tooth. Henry A. Cotton, Medical Director of the New Jersey Hospital for the Insane, in 1918, reports a large number of cases of insanity in which a cure was obtained by extracting infective teeth, removing tonsils and clearing up the gastro-intestinal canal. He has been able to cure early cases in a very short time, prevent the disease from becoming chronic in a very large number of instances, and restore a certain number who had been in the hospital for as long as nine years. Hardly any of the better class of patients were free from capped and pivot teeth or bridge work, and in all he had found them to be seriously infected. So it had been the practice of the institutional dentist to remove the bridge work and extract these teeth at once. Another group of patients, especially the poorer class, showed absolute neglect of their teeth. It was necessary in such cases to remove all the teeth. In cases with severe infection of long standing, it would appear the tendency came from their parents. This has been especially evident in many instances whenever it was possible to examine the teeth of the parents of such children.

My first case to report is Mr. J. E., age 61 years. Came under my care March, 1917, suffering with chronic nephritis. He had been

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\* Read at annual meeting of West Tennessee Medical and Surgical Association at Dyersburg, May, 1919.



under the care of several physicians, as he had been a sufferer for years. I found him very far advanced, with head symptoms, vertigo, falling spells, bad heart and, in fact, swelling of the feet and legs and the beginning of general anasarca. Contrary to the rule, the specific gravity of the urine was very little abnormal. The quantity was small, color bad. I frankly told him I could promise him nothing but a little relief, and that for only a short time. He was still able to travel. I referred him to Dr. W. D. Haggard, of Nashville, who gave him a very thorough examination. He found, among other things, that he was suffering with an exceedingly bad mouth and teeth. He ordered the immediate removal of all his teeth, which he had done. He returned home, he and his family very much encouraged, but it all proved too late, and he gradually passed away, dying September 4, 1917.

My object in reporting this case is to ask you to think what a different story it might have been had he been advised and treated by an interested and competent doctor ten years earlier.

My next case I report is now under treatment. Mr. G. B., age 55. He has been a rugged, stout man all his life, but for several years he has suffered from a chronic stomach trouble that at times gave him considerable worry. About the middle of October he had a rather severe attack of influenza, but was thought by his physician to have made a fairly good recovery. However, the stomach trouble increased in violence. He remained in bed for two months. I was called to see him with his attending physician February 27, 1919. I found, in addition to the stomach distress, gastritis, difficult breathing, bad heart's action, also sciatica and rheumatism in one leg, chronic pyorrhea, and diseased teeth with many cavities. After a few days' treatment his symptoms all improved, but the improvement was of that slow, dragging kind. His physician and I readily agreed that as soon as he was physically able his teeth should all be removed. About this time the family wanted a special laboratory man called and his regular physician told me they examined him very carefully and readily agreed that our opinion was good relative to having

his teeth removed, and that this should be done as early as he was able to stand it. The outcome of this case, of course, is unknown to me.

The last case I will report was a case treated by Dr. J. C. Stinson, of Henderson County. He very kindly reported the case to me with permission to write it into my paper. I assure you it is a great pleasure for me to do so, having so well and favorably known Dr. Stinson for many years. He says: "On February 9th I was called to see a little girl nearly six years of age who had rheumatic symptoms. Temperature two degrees above normal. Left hand and wrist swollen and tender. Both knees and ankles tender. Could not walk. She had gastritis and some dysenteric symptoms. Some of the gums were swollen, and pus around the teeth. I first thought of giving a remedy for the rheumatism, but as I wanted to use *aleresta ipecac* for the dysenteric symptoms and for the gums I could not use the remedy I had in mind on account of the alcohol contained therein.

"I gave *aleresta ipecac* three times a day and gave bismuth for the stomach. Cleaned the teeth and gums before each meal with peroxide of hydrogen and used a mouth wash containing carbolic acid, golden seal and chlorate of potassium. The patient improved fast and is now well after five weeks treatment. She now takes one tablet a day of *aleresta ipecac*."

Dr. Stinson lives twenty miles from the railroad, but he gives all his patients such careful and painstaking diagnosis and treatment.

Mr. President, is it not remarkably strange, with our many medical and surgical journals every week and month having special articles on the diagnosis, treatment and prevention of the bacterial infections of the mouth that we, the family physicians, have so long failed to be aroused to the dangers and allowing these conditions to go almost unnoticed, existing in some families from generation to generation? I have known mouth infection to exist in families, according to the history, almost as an heirloom as far back as the great-great-grandparents. I do not by any means believe that all the ills that flesh is heir to are caused by mouth infection; but enough of them are to more than justify a vigorous and world-

wide campaign for the better care of the teeth and for a thorough search for mouth infection in every case of obscure disease.

Fisher and Fisk say there are two forms of mouth danger that should be clearly differentiated. Dental caries or decay is at first largely a chemical process and affects the tooth proper. Pyorrhea or Riggs' disease affects the tissues surrounding the root of the tooth and is accompanied with infection by pus bacteria and, possibly also by animal parasites termed endameba. Scrupulous cleanliness of the mouth largely prevents both of these maladies. The tooth cavity is dangerous, as it harbors various forms of bacteria which may infect the general system through the root canals or through the digestive system by being swallowed with the food, and also give rise to abscesses at the root tips. Pyorrhea is an infection of the gums or tooth sockets. It begins beneath the edges of the gums that have been injured, and especially where there has been a deposit of tartar or lime deposit. As the infection progresses and destroys the membranes that attach the root of the tooth to the socket, a pocket is formed around the root and the tooth becomes loosened. It is said that this disease is responsible for far more loss of teeth than is decay.

The light that has lately been thrown on chronic sources of focal infection has cleared up many of the mysteries surrounding the causation of certain obscure affections—chronic rheumatism, arthritis deformans, certain forms of anemia, goitre, chronic heart and kidney troubles, diabetes, ulcer of the stomach, duodenum, etc., and other forms of chronic disease, especially those that have proved resistant to known methods of treatment.

Some dentists and physicians have until lately given too much attention to the saving of teeth without fully realizing the dangers of infection from the mechanical devices employed.

The teeth should not be extracted on mere suspicion and without proper effort to save them; but it is far more important to save a heart or a kidney or a set of joints than it is to save a tooth. This is not to say that all bridge and crown work is improper, but that such work should only be of a character

that will permit of surgical cleanliness in the mouth and that such teeth should always be examined by the x-ray when there is evidence of systemic disease, in order to be sure that the roots and sockets are not infected.

I hold that the wealthy are well taken care of by the dental surgeon, as are the very poor who come under institutional protection; but the great middle class who are vastly in the majority are entirely dependent upon the family physician for their salvation from this fearful disease and its consequences.

I believe it is a universal opinion held by all writers and teachers that the above diseases are due to bacterial infection and are, therefore, positively preventable by early and proper treatment; and, as the family physician is the health officer of every family he attends, it is his privilege and duty to be intensely interested in the prevention of all preventable diseases.

We all know that if we would investigate early and advise the families they would be only too willing to co-operate with us in the early treatment and prevention of such terrible diseases and their complications. As family doctors, what have we been doing? What are we doing? and what are we going to do?

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### **SOME POINTS IN THE SURGERY OF SOME OF THE COMMON ORTHO- PEDIC CONDITIONS.\***

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In this paper I desire to discuss briefly some of the most important points in the surgery of the common conditions that come to the attention of the orthopedic surgeon. The first of these is anterior poliomyelitis. This disease should be under the supervision of the orthopedic surgeon from the time the paralysis sets in. Unfortunately, we too often see these patients only after they have run

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\* Read at annual meeting of the West Tennessee Medical and Surgical Association, at Dyersburg, May, 1919.

the gauntlet of osteopaths, chiropractors, electro-theraputists and even Christian scientists. By the time all these are through, usually only after parents can no longer pay, more or less severe deformities exist.

The properly handled case of poliomyelitis is put at absolute rest with the extremities in their proper position until all acute symptoms and tenderness have disappeared. Rest and quiet are essential to nerve regeneration. Plaster of paris casts and splints or light metal braces will do this. Following the two or three months' rest period, very light massage and active and passive movements should be carried out for about one year. Following this, active motion and muscle training are instituted. Of these two, muscle training is by far the most important. By muscle training, we mean the re-education and re-development of the paralyzed muscles. Oftentimes in the beginning there is just a slight flicker of power, and this can be developed gradually until the muscles again become useful. It is very necessary that these muscles are not overworked. A few minutes of overwork will undo weeks of patient work.

In the treatment of poliomyelitis, electricity has very little, if any, value. At any rate, with a current strong enough to contract the deeper muscles a child would not stand the pain.

Until at least two years have elapsed since the attack, no surgery is attempted unless it be some simple procedure, as tenotomy, to make the wearing of an apparatus possible. During this period of muscle training, the patient should be fitted with the proper braces, if necessary, and encouraged to walk. After two years we believe that in the majority of cases all power has returned that will ever return. Then if the patient is old enough, reconstructive and correcting operations can be done.

What to do depends entirely on the condition of the patient under consideration. Each poliomyelitis case is a problem in itself, and the surgical procedure must be mapped out for that one case. There are, however, some general groups of operations, such as tendon transplantation and stabilizing operations.

Of the stabilizing operations, the Whitman

operation, astragalectomy, is the most generally useful for flail ankles. The astragalus is the bone around which the foot rotates and the rotation destroys the usefulness of the foot for walking. The astragalus is removed and the foot set back until the tibia articulates with the scaphoid. A notch is cut in the cuboid to articulate with the fibula. The foot is held firmly between the internal and external malleoli and cannot roll from side to side, but has some flexion and extension. The foot is put in a cast with toes pointing slightly down and outward, and held so for about three months. Then, with an elevated heel, the patient has a stable foot to walk on, and in a few months the operation deformity disappears and the foot looks almost normal. The leg is but slightly shorter than before.

Hip and knee joints can be stabilized after the patient gets to be about 14 years old or over. In no case should a hip or knee be stiffened unless the patient is old enough to know and realize what it means to him.

Wherever possible a tendon transplantation is extremely satisfactory and is the operation of choice. In many cases, the quadriceps extensor is paralyzed but the hamstrings are good and strong. Here the transplantation of the semitendinosus and the long head of the biceps forward on a long slant to the patella offers good results. These tendons must be brought forward on a long slant and must be attached to the raw bone of the patella. Oftentimes we see a calcaneo-valgus, due to paralysis of the gastrocnemius and solius and all other muscles of the leg are strong. Here the peroneus longus freed up and pulled down inside the sheath of the achilles tendon and inserted into the raw bone of the os calcis gives an excellent result.

In cases of paralysis of anterior tibial and foot drop, the toe extensors are very often good and strong. They can be made to take up the work of the anterior tibial. The extensor longus hallucis is passed through a hole drilled through the first metatarsal bone and brought up, passed through a slit in the proximal portion of the tendon and then sutured to itself with chronic catgut. In the small children we braid the other four into one strand and pull them around the metatarsal



selected and sew this to itself. In the older patients each metatarsal is drilled and the corresponding tendon passed through as in the first one. All tendon transplants are held in a cast for six weeks. Then training these muscles for their new work is begun. All stabilizing operations are held for three months or more.

The second condition upon which I wish to speak is the congenital club foot. Two types of this deformity will present themselves for treatment—*talipes equinovarus* and *talipes calcaneo valgus*, but as the latter is much the rarer type and usually can be corrected by casts alone, we will consider only the equinovarus type. We are not sure of the cause, no doubt the twisting of the foot in utero is important. Whatever the etiology, we do know we have large numbers of babies born with clubfoot.

The time to begin treatment for clubfoot is not when the child is a year old, or when it begins to walk, but the first time you see it. If need be, let the first treatment be stretching and manipulations by the nurse or some member of the family. Later casts or braces can be applied. A few will be corrected by manipulation. A larger number will be corrected by casts and braces. Others will have the varus corrected, but not the equinus. Others will not be corrected by any other means except operation.

The radical club foot operation consists of, first, thorough manipulation and stretching the foot, then cutting the following structures in order named: Plantar fascia, post-tibial tendon, Achilles tendon and the toe flexors. Through an incision about one inch, just above and posterior to the interior malleolus, the posterior tibial is exposed, the sheath slit, the tendon lifted up and cut transversely. The other cutting is done subcutaneously. In practically every case in young children this allows the foot to be easily over-corrected. In the older children and adults a wedge of bone or the astragalus has to be removed before over-correction can be obtained. It is very necessary to cut the toe flexors in all club foot cases, because the long flexors come down behind the internal malleolus and help invert the foot. If not cut, they tend to cause relapse. The short and long flexors are easily

tenotomized just posterior to the base of the metatarsals. After the foot can be easily over-corrected, it is held in casts until there is no tendency to relapse—and that time varies a great deal.

Another troublesome condition with which we have to deal and about which ideas have changed in recent years, is osteomyelitis. The old idea was to try and clean out the infected area, as a dentist removes the decay from a tooth, and then to apply strong antiseptics. This method never removed or destroyed the infection, but carried it farther, and destroyed much healthy bone-forming tissue.

The idea in treating osteomyelitis today is to remove all sequestra and dead bone, make the sharp-edged, deep cavity into a broad, shallow, saucer-shaped one, wipe out the cavity with dry sponges and apply only a very mild antiseptic, such as half strength Dakin's solution. The edges of the soft tissues should be freed up so they will more easily fall into the cavity. The surrounding skin should be protected with vaseline and the wound irrigated daily with half strength Dakin's or packed lightly with gauze saturated with it. The incision should be left wide open and allowed to close as it will. Exposure to sunlight also promotes healing.

**Fractures.**—The real problem here is to prevent deformity and preserve useful limb function. Fractures must be diagnosed and then thoroughly and intelligently reduced under anesthesia and treated conservatively. Every fracture should be radiographed for intelligent study. No simply fracture should be operated upon until all the modern means to keep the fragments in alignment have been exhausted. End to end apposition is to be desired, but is rarely obtained. If the fragments have been secured in proper alignment, good function will almost invariably follow good union, even if there is a moderate amount of overlapping. Slight shortening is common in all fractures, and does little or no harm.

The proper use of the Steinman pin, or the Calliper tongs extension with a Balkan frame and Hodgen or Thomas splint, renders plating of the femur unnecessary except in rare instances. The use of metal plates has now been practically abandoned. Plates made of

bone, bone screws, the autogenous inlay and intramedullary and the boiled beef bone graft are to be preferred. For ununited fractures of the long bones, the use of a long autogenous inlay graft almost always offers good results. However, this sometimes fails to produce a union and a long autogenous intramedullary graft almost always succeeds. Once in a great while even this fails. Then the fault lies in imperfect osteogenesis, sometimes due to age of patient. Ununited fractures of the femoral neck are best treated by the boiled beef bone peg. The beef bone peg is very strong and absorbs very slowly, thus giving support long after it is absolutely needed. Here a good result depends upon good technique. After the ends of the fragments have been freshened up and approximated, a hole of five-sixteenths of an inch in diameter is drilled from well below the trochanter and entering the head at the normal angle of 128 degrees, and not a right angle. Then a boiled beef bone peg the exact size of the drill used is driven through. At the normal angle traction of the muscles around the hip tends to bring the fragments in closer approximation. A cast is applied and patient kept in bed about six weeks. At the end of that time, he may be allowed up on crutches. At the end of about three months, a Thomas knee splint can be applied, and, with a high sole on the other foot, the patient walks without bearing weight on the injured leg. Weight bearing is allowed after six or eight months.

In treating old fractures, existing deformities and contractures must first be overcome by appropriate orthopedic operations. Malunited fractures are straightened up and infected fractures have all foreign bodies removed and necrotic tissues excised and are freshened up and fixed.

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#### **ASK FOR CONTAINERS AND SEND IN YOUR SPECIMENS.**

Any physician in the state can secure containers to be used in sending specimens for examination to the laboratory of the State Board of Health. Write to Dr. Wm. Litterer, State Bacteriologist, Second Avenue and Elm Street, Nashville, and ask for the containers

you need. Examinations will be made for the diagnosis of typhoid fever, diphtheria, hydrophobia, malaria, hookworm disease, and other communicable diseases which are named in a circular prepared for physicians and issued by the laboratory. Heretofore these containers have been secured through the health officers of the counties and municipalities, but it has been found that this plan of distribution was not serving the profession. Absurd as it may seem, it has developed that in more than one county certain members of the profession were not "on speaking terms" with health officers, and for that reason would not ask for containers so that they might send in specimens for diagnosis.

In offering to send containers to any physician, the State Board of Health hopes to extend its laboratory service and to be of real help to the people of the state. It is asked of those who send in requests for containers that they will not waste them. These containers cost money. They are made to conform to the requirements of the postoffice regulations.

Many specimens sent to the laboratory never reach there because they are improperly prepared for transmission through the mails. Many others are not delivered because improperly addressed. Many which reach the laboratory are not reported on to their senders because the names of the senders are not given.

Get containers from the laboratory, as above indicated. Send no specimens except in laboratory containers. Address all specimens to Dr. Wm. Litterer, State Bacteriologist, Nashville. Be sure to put your name and address on the blank or on a separate paper. Put letter postage on the container.

The State Board of Health wants to serve you and will serve you if you will observe the necessary rules governing the transmissal and examination of specimens.

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The most independent human being on earth is the cook. The next most independent, and the most self-willed and dictatorial individual known at the present time is the trained nurse. Then come lawyers, plumbers, chauffeurs, loafers and billionaires.

# THE JOURNAL

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Devoted to the Interests of the Medical Profession of Tennessee

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JUNE, 1919

## EDITORIALS

### HOW LONG, OH LORD, HOW LONG?

Several years ago the Tennessee State Board of Health, co-operating with the Rockefeller Sanitary Commission, put on the first field work ever undertaken in this state for the purpose of demonstrating the very great prevalence of hookworm disease and other soil-borne disease. The prevalence was demonstrated alright, as was the ease with which hookworm disease may be successfully treated and prevented. More than 100,000 microscopic examinations of which accurate records were kept were made in the state, as well as many thousands of which accurate records were not kept. Practically every practitioner of medicine in the rural parts of Tennessee had demonstrated to him, or at least had full opportunity to have the benefit of such demonstration, the diagnosis of hookworm disease and other disease due to intestinal parasites. Hundreds of cases of obscure nature were cleared up by a few doses of thymol and salts, or of ealomel and santolin, or other simple medication administered for killing and removing worms. Every sort of appeal that could be thought of was made to Tennessee physicians to be on the lookout for, and to find and treat intestinal parasitic disease. There never has been a more positive demonstration made to any body of men anywhere on earth.

And yet, within the month we have seen three cases of hookworm disease, all of which had all the earmarks, in one city hospital under the care of city physicians, sent in by country physicians from counties where the State Board of Health demonstrated a hookworm infection of more than 50 per cent among school children. Be it said to the credit of

the city physicians who had these cases in charge, that hookworm disease was the first thing they looked for first of all.

On the other hand, we have known of several instances where our fine city surgeons have operated for abdominal surgical disease without benefiting their patients, only to have these patients finally fall into the hands of some good country doctor, who had learned the lesson so clearly demonstrated by the State Board of Health in the years from 1910 to 1915, and who proceeded to remove all pathology, save the abdominal adhesions produced by the surgeons' operations, by giving two or three doses of thymol or chenopodium and salts.

And in that same "hookworm campaign" the workers of the State Board of Health made every effort to impress upon the medical profession of this state the fact that our text-books shamefully minimize the dangers and the importance of intestinal parasites—all of them—and seem to know absolutely nothing whatever about the pathogenicity of several of them.

And, incidentally, there was suggested to the profession—the possibility was urged upon the profession, in fact—that many unicellular organisms might be pathogenic and that any obscure intestinal trouble demanded for its proper study and treatment microscopic examination of the feces. Our readers will find in this Journal an article by Dr. Jack Witherspoon on "Flagellate Diarrhea." We hope they will read it and keep in mind the facts presented and that they will act accordingly when confronted with cases like those described.

Intestinal parasites are directly and solely responsible for a tremendous amount of illness and inefficiency in Tennessee today, but the medical profession of the state, taken as a whole, is inclined to ignore the fact. Many a child is having withheld from him the simple treatment that would give him a decent chance simply because so many of our doctors persist in refusing to realize the importance of diagnosing and treating easily curable and easily preventable disease due to hookworms, round worms, coccidiosis, and other organisms whose presence in the intestine can be easily demonstrated. And the State Board



of Health, through its laboratory, will make the diagnosis free of charge.

How long are our rural physicians going to continue to send their hookworm cases to the city hospitals for treatment? How long are our city surgeons going to keep up operating on anemic country patients without first finding out how much intestinal parasites have to do with the anemia?

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### FALSE FIGURES.

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The 1918 birth statistics for Tennessee have been compiled and the state is going to be done a very great injustice when these statistics are published. Why? Simply because a very large proportion of the births which occurred in Tennessee in 1918 were not registered by attending physicians and midwives.

Think of Fentress County, with a birth rate of 16.7 per 1,000 population! Think of Haywood County, with a birth rate of 19.1 per 1,000 population and a death rate of 144.5 for infants under one year old per 1,000 live births! Think of Maury County, with Sheddan, Ragsdale, Porter, Biddle, Forgey, Perry, the Williamsons, and other good doctors to deliver and register the babies born, with a birth rate of 17 per 1,000 population! And Montgomery, with Brandau, Runyon, Hughes, Macon, Nebletts, Edmondson and a whole raft of other good doctors to deliver the babies and register their births, with a rate of 18.6 per 1,000 population! And Weakley, with Parrish, Mayo, Biggs, Wingo, Little, Sebastian, Taylor, Moore, and lots of others to deliver the babies and register their births, with a rate of 18.9 per 1,000 population! And Williamson, with Howlett, Nolen, White, German, Shannon, Oden, Greer and other splendid physicians to deliver the babies and register their births, with a rate of 21.3 per 1,000 population! And think of Davidson County, with enough doctors to do all the obstetrics for three or four counties and charged under the law with the duty of registering births, and charged with the duty under the responsibilities which rest upon physicians everywhere to serve the common cause, with a birth rate of 12.2 per 1,000 population! And Shelby County, with so many doctors that

225 are members of the county medical society, with a birth rate of 8.9 per 1,000 population!

Chattanooga, with a rate of 15.7; Nashville, with a rate of 17.6; Knoxville, with a rate of 16.6, and Memphis, with a rate of 14.9 per 1,000 population, means that the physicians of all of these cities are not registering the births of many of the babies which they deliver. These same cities have death rates for babies under one year as follows: Chattanooga, 168.5; Nashville, 147.1; Knoxville, 171, and Memphis, 137.3.

The State Board of Health can only publish the figures made possible by the returns, even though it is positively known that these figures do not tell the full truth concerning the number of births and the birth rate for the state. Even though the State Board of Health did not publish the figures, the Census Bureau would do so, and the consequence is that Tennessee gets a "black eye."

A great many of our doctors make out birth certificates for all births attended by them and put the certificates into the hands of registrars promptly. A great many others register all births, but do not send their certificates to registrars for weeks or even months after the births occurred. A few have had to be indicted before their compliance with the law could be secured, and more are going to be.

Birth registration is important, from the standpoint of the individual and from the standpoint of the state. Physicians can render a truly patriotic service by reporting their births regularly and promptly. It is to be hoped that the returns for 1919 will be far better than for past years, in order that Tennessee may not be placed in a false light before the world, and in order that our babies may have the benefits that are rightly theirs which accrue from birth registration, and in order that the public health service of the state may have the facts for proper guidance in activities designed for the public good.

Supplies for birth registration will be mailed to any physician who needs such supplies, or they may be obtained from local registrars.

## **PUBLIC SERVICE—THE PHYSICIAN'S DUTY.**

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The professional man generally, and the physician in particular, has come to be looked upon as a public character, owing a direct and peculiar service and duty to the public. He is one of a class of citizens who by education and experience has acquired a bigger, broader point of view than can be attained by the average citizen. His education and training give him an understanding of the interests of groups of people. The average man is accustomed to look to the physician for advice and direction in the extraordinary things of life, the things that are beyond the capabilities and experience of the average individual.

The community today looks to the physician for public service as a part of his job. His standing and influence in the community force the community to look to him for this service. The medical profession has been brought forth from the laboratory and the office and placed in the limelight of public service. We have doctor-mayors, doctor-aldermen, doctor-governors, doctor-congressmen and doctor-senators. The public life which half a century ago was confined almost exclusively to the legal profession now demands the services of all men with the broad point of view which is conferred by a professional education.

In assuming the responsibilities of public service, the physician is not only performing his duty to the community. He is contributing directly to his own personal and professional success. The physician who becomes favorably known to his community through his public service, will soon become favorably known for his professional service. By no other means conforming with the ethics of his profession can the physician acquire so wide and so thorough acquaintance with the men and women upon whom his professional success depends as he can by public service.

The physicians of the country have demonstrated their willingness to accept the responsibility of public service during the war period. The self-sacrificing services of the profession as a whole in connection with the formation of the great National Army through

the draft, not to speak of the actual field service of the thousands of physicians who served aboard or in the training camps here, demonstrated the public spirit of the profession.

A great opportunity is now before the physician in his character of a public man. The American people are seeking to perpetuate the habit of thrift acquired under the stress and strain of the war period. The success of this movement means a strong, self-reliant American people, independent and able to care for themselves. It means people prepared for the rainy day of adversity or prepared to take advantage of the opportunity which is constantly recurring in American life. It means a better level of moral and financial prosperity in every community.

Every physician should at once join the thrift movement. It is organized by the Federal Government through the twelve Federal Reserve Districts, and is represented in every community by a Savings Director, whose duties are to educate his community as to the advantages and opportunities of thrift and to forward the sale of Thrift Stamps and War Savings Stamps which the Government has made available for reducing the thrift campaign to concrete accomplishment.

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## **DANGEROUS INACTIVITY.**

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From reports which come from numerous counties, as well as from first-hand observation in one or two counties, we are led to believe that many county medical societies have lapsed into a state of inexcusable and dangerous inactivity. When the war was on and some seven or eight hundred Tennessee physicians were away from their homes, and when practically all of those left at home were overwhelmed with the work that had to be done, there was necessarily a suspension of organizational effort. But now the war is over, most of our men are back in their old places or in new locations in which they have had time to become "acclimated," and there is no real reason why medical societies should not resume work. In fact, there is every reason why society effort should be put forth with more spirit and more determination to do good work than were in evidence before the war began.

The doctor who went into military service and who has returned to his home without a keener appreciation of the privileges of civil life is a rare individual. The doctor who remained at home and who has not had, after all the varied experiences he has had if he did a full man's part, his desire for better preparation for the practice of medicine sharpened and the burden of his responsibilities as a citizen to bear more heavily upon his mind and heart is a strange individual. Both of these classes must know that their active participation in the work of a live medical society will bring benefits to them and to the people they serve.

Inactivity is dangerous—to the individual and to the group. Inactivity means retrogression. Inactivity means neglect of duty. Inactivity is wrong.

Let our county societies be up and doing. Let's not be quitters nor slackers. Call up your county secretary and tell him you will go, and then GO to your society meeting the next meeting time. And then keep going.

## NOTES AND COMMENT

In the first draft 3.8 per cent of the men from Tennessee reported to camps with active venereal disease. Of Tennesseans in the second draft, 6.3 per cent of those reported to camps had active venereal disease.

James County had an infant mortality rate for 1918 of 39.2, with a birth rate of 29.3. That means poor death registration. Shelby County, outside the city of Memphis, shows an infant mortality rate of 191.3, and a birth rate of 8.9. That means mighty poor birth registration.

It's about time for the establishment of maternity wards, as such, in the hospitals of Tennessee cities. There can be no doubt but that the mortality rate for child-bearing women can be materially reduced if more obstetrical work can be done in hospitals.

Senate Bill No. 1258 has been introduced in Congress, the purpose of the bill being to prohibit the use of dogs for experimental pur-

poses in the District of Columbia and in the territorial possessions of the United States. Of course the passage of this bill would mean that the work of the hygienic laboratory at Washington would be greatly hampered. Tennessee Senators should be asked to fight this bill.

The effort of our Government to make the Harrison law a revenue producer by taxing physicians and then doubling this tax is deserving of the severest condemnation.

A lot of sentimental slop is being poured out about the "poor unfortunate" drug users. Their horrible suffering ending only in death is very frequently depicted, and the absolute necessity for the establishment and maintenance of great institutions for their cure is always being pointed out. The truth is that practically every one of these addicts can have his drugs immediately and entirely withdrawn without any danger. Suffer? Yes, but not for very long. And what of it? Why not think of all the suffering done by other folks because of the "doper?"

An institution with five thousand bed capacity, with every known institutional need thoroughly provided for won't stop drug addiction in this state.

What is needed to stop the "dopers" until the time when narcotics are absolutely controlled by the Government, insofar as their distribution is concerned, is institutional care for a number of dope-slinging doctors and druggists. And the institutions are already provided—at Atlanta and other places where United States prisons are maintained.

## MISCELLANEOUS

### TRAFFIC IN NARCOTIC DRUGS.

Statistics compiled by the Department of Commerce show that the quantities of narcotic drugs imported into this country steadily increased from the date when the first entries were reported until our chief sources of sup-



ply were shut off as a result of the present war. In 1915 the quantities of these drugs consumed in this country amounted to approximately 490,000 pounds of opium and more than 1,000,000 pounds of coca leaves. These quantities of opium and coca leaves, in their crude state and in the form of manufactured products, were supplied to the public through a total of 233,491 individuals and institutions registered under the Harrison Narcotic Act. The minimum value of these drugs computed on the basis of retail price of the crude material would be something over \$20,000,000. The actual cost to the consumer, while it greatly exceeds this amount, cannot be estimated at the present time. When we take into consideration the fact that various investigators have stated that only from 10 to 25 per cent of the quantities of these drugs imported is actually needed to supply the demand for legitimate medical purposes, we can arrive at some idea of the quantities of these drugs consumed by addicts and the amount of money expended for the satisfaction of their addiction.

The foregoing represents only the extent

of this traffic as carried on through legitimate channels. In recent years, especially since the enactment of the Harrison law, the traffic by "underground" channels has increased enormously, and at the present time it is believed to be equally as extensive as that carried on in a legitimate manner. This traffic is chiefly in the hands of so-called "dope peddlers," who obtain their supplies by smuggling from Canada, Mexico and along the Atlantic and Pacific coasts.

**Extent of Drug Addiction.**—The number of individuals addicted to the use of opium, its preparations or alkaloids, and coca leaves, their preparations and alkaloids, in the United States has, at various times, been estimated to be from 200,000 to 4,000,000. These estimates must, however, be looked upon as mere guesses in most cases because of the fact that there have been no means available for reaching an accurate estimate in the past. The following table shows the number of addicts in the United States, or parts thereof, as estimated by a number of different investigators who have made a more or less extensive study of the situation:

**Number of Addicts, as Estimated by Various Observers.**

Observer.	Year.	Number of Addicts.	United States or Parts Thereof.	Per Cent of Population.	Kinds of Addicts.
T. D. Crothers-----	1912	1,000,000	United States ----	1.0	50 per cent morphine.
C. E. Terry -----	1913	887	Jacksonville, Fla. -	1.31	All drugs.
L. P. Brown -----	1915	269,000	United States ----	.27	Do.
Do. -----	1915	5,000	Tennessee -----	.22	Do.
M. I. Wilbert -----	1915	175,000	United States ----	.175	Opium.
Do. -----	1915	80,000	----- Do. -----	.08	Cocaine.
Jeannette Marks -----	1915	4,000,000	----- Do. -----	4.0	Opium-Cocaine.
Horatio C. Wood, Jr. -----	1916	100,000	----- Do. -----	.1	Opium.
J. R. Campbell -----	1916	15,000*	New York State --	.16	All drugs.
Massachusetts Committee on Habit-Forming Drugs ---	1917	60,000	Massachusetts ---	1.6	Do.
George H. Whitney -----	1917	100,000	New York State--	1.0	Do.
Earnest F. Bishop -----	1918	200,000	----- Do. -----	2.0	Do.
Do. -----	1918	100,000	New York City--	1.8	Do.
L. S. Hinckley -----	1918	2,000,000	United States ----	2.0	Do.

\*Children.

Owing to the lack of laws and regulations making it compulsory for the registration of addicts throughout the country or the keeping of any records as to their identity, it has been impossible for the committee to obtain information which would give the exact number of addicts in the United States at the present time. It is believed, however, that a fairly accurate estimate of their number can be made from the information which the commit-

tee has obtained. Attempts to accomplish this have been made as follows:

The number of addicts reported by the health officials replying to questionnaire No. 4 was 105,887. As this number represents the addicts reported by only 26 per cent of the health officials from which this information was requested, it may be assumed that had all the health officials replied the total number would have amounted to approximately

420,000. This number, however, appears to be much too low, in view of the fact that the physicians of the country are estimated to have had about 237,000 addicts under treatment during this same period, and only a small portion of the total number of addicts present themselves for treatment. Addicts of the "underworld," for instance, secure most of their supply through illicit channels and rarely, if ever, consult a physician.

It appears that a more accurate estimate of the total number of addicts may be obtained from the data secured by those investigators who have made an intensive study of drug addiction in certain restricted communities. For example, the health officer of Jacksonville, Fla., reported 887 addicts in that city in 1913. This number represents 1.31 per cent of the population. Upon this basis the total number of addicts in the United States, in 1918, taking the estimated population as 106,000,000, would be 1,388,600.

In reply to questionnaire No. 4 sent to the health officers of states, counties and municipalities, the health officer of New York City reported a total of 103,000 addicts, which is equivalent to 1.8 per cent of the population. On this basis, there would be 1,908,000 addicts in the United States.

Information in the hands of the committee indicates that drug addiction is less prevalent in rural communities than in cities or in congested centers. It would, therefore, be unfair to estimate the number of addicts in the entire country on the basis of the figures obtained for New York City. Furthermore, it is the opinion of the committee that an estimate based on the number of addicts in a small city like Jacksonville, Fla., would not be representative for the entire country. Taking these facts into consideration, the committee is of the opinion that the total number of addicts in this country probably exceeds 1,000,000 at the present time.

With respect to the increase or decrease in the number of addicts within the last year, the following statements can be made: In response to the question, "Has narcotic drug addiction increased or decreased in the past few years?" which inquiry was directed to 3,023 health officers and 1,263 chiefs of police,

962 expressed an opinion. Forty-eight stated that there had been an increase and 914 reported a decrease. Taking into consideration the population of the cities or counties reported by the officials giving these opinions, it is found that in practically every instance the increase reported was from the largest cities, and in particular in those cities where more than usual attention is being directed to the eradication of drug addiction. Thus each of the twenty following cities, having an aggregate population of approximately 10,000,000 people, have reported an increase: San Francisco, Calif.; Wilmington, Del.; Macon, Ga.; Louisville, Ky.; Brockton, Mass.; Detroit, Mich.; Kansas City, Mo.; Elmira, N. Y.; New York City, N. Y.; Utica, N. Y.; Yonkers, N. Y.; Charlotte, N. C.; Muskogee, Okla.; Oklahoma, Okla.; Toledo, Ohio; Portland, Ore.; Harrisburg, Pa.; Chattanooga, Tenn.; Knoxville, Tenn.; and Nashville, Tenn.

Replies in which a decrease in the number of addicts were reported were received chiefly from rural districts or smaller cities where little or no attention has been given this subject, so that it is quite possible that the opinions expressed by the officials resident in these places are at variance with the conditions as they actually exist.

What effect, if any, nation-wide prohibition will have on the situation could not be definitely determined by the committee. The consensus of opinion of those interested in the subject appears to be to the effect that the number of addicts will increase as soon as the prohibition laws are enforced. These opinions are based, on the most part, on the theory that drinkers will seek a substitute for alcohol and that the opiates and cocaine will be found to be most satisfactory for this purpose. This opinion apparently receives some support from investigations made in some of the Southern States, where prohibition has been in effect for some years. It has been noted that in these states the sales of narcotic drugs and cocaine, and especially the sale of preparations exempt under section 6 of the Harrison Act, such as Bateman's Drops, Godfrey's Cordial, and paregoric, have greatly increased during this period. Whether or not this condition will become general when na-

tional prohibition becomes effective is a question which cannot be answered at the present time.

**Etiology of Addiction.**—The investigations of the committee have led to the conclusion that addiction to the use of these habit-forming drugs is not restricted to any particular race, nationality, or class of people. Anyone repeatedly taking a narcotic drug over a period of thirty days, in the case of a very susceptible individual for ten days, is in grave danger of becoming an addict. And, when addiction has been established, it is impossible for the individual to discontinue the use of the drug without outside assistance. These statements are supported by the opinion of medical men who were consulted on the matter and by reports which have appeared in medical journals. The more important findings of the committee which have a bearing on the subject of the etiology of drug addiction are as follows:

Data assembled by the committee show that the habit of using opiates or cocaine is acquired through association with addicts, through the physician, and through self-medication with these drugs, or patent or proprietary preparations containing the same. The first two ways in which addiction is acquired are of about equal importance at the present time, the last being of lesser importance in the light of the replies received to the questionnaires sent out.

With respect to this phase of the subject, the committee finds that addicts may be divided into two classes—namely, the class composed principally of addicts of the underworld and the class which is made up almost entirely of addicts in good social standing.

The addict of the underworld, in a large majority of cases, acquires the habit of using these drugs through his or her associates. This is probably due to the fact that addicts of this class make use of heroin and cocaine most frequently, these drugs being employed as a snuff. It is, therefore, an easy matter to treat a companion to a snuff of the "depe." In addition, these drugs are made use of by "white slavers" in securing and holding their prey, and by prostitutes in entertaining their callers.

With respect to the addict of good social standing, the evidence obtained by the committee points to the physician as the agent through whom the habit is acquired in the majority of cases. Some, however, become addicted to the use of these drugs through self-medication, while a few first indulge as a social diversion.

The drugs used by addicts in order of their frequency, as shown in the replies to all forms of questionnaires sent out by the committee, are as follows: Morphine, heroin, opium (all forms), and cocaine. Codeine, landanum, and paregoric are reported as being used in about equal amounts, but to a lesser extent. In recent years the use of heroin has greatly increased, and in some communities it is at present used more extensively than any of the other drugs. This is believed to be due to the ease with which it can be taken, it being usually employed as a snuff, and to the fact that the habit is acquired by association in a large majority of cases. It is at present regarded by many as the most dangerous of these drugs from the standpoint of habit formation and the creation of new addicts.

The committee has obtained no information to show that there is any relationship between the age of individuals and susceptibility to addiction. The range of ages of addicts was reported as 12 to 75 years. The large majority of addicts of all ages was reported as using morphine or opium in its preparations. Many of the older addicts were reported to have acquired the habit when still in their teens. Most of the heroin addicts are comparatively young, a large portion of them being boys and girls under the age of 20. This is also true of cocaine addicts, many of them, according to reports, being mere children.

The statistics compiled by the committee show that the greater part of the addicts in this country are American born. It is a rare occurrence to find an addict among the immigrants on their arrival in this country, although some of them become addicted to the use of these drugs after taking up their abode in this country. Of course this statement does not apply to the Chinese and certain other nationalities of the Orient. In the replies received to questionnaires sent out by the com-



mittee, practically every nationality was reported. These replies, however, did not show any relationship between nationality and extent of addiction among the foreign born.

Contrary to general opinion the committee finds that drug addiction is not more prevalent among females than males. Reports obtained from some parts of the country show that the females outnumbered the males, while in other sections officials reported a preponderance of males. Taking all factors into consideration, it appears that drug addiction is about equally prevalent in both sexes.

The information collected by the committee does not show any direct relationship between any specific occupation and drug addiction. Addicts are found engaged in all lines of work. It has been stated that the percentages of addicts is greatest among people engaged in the practice of medicine or closely related occupations, such as the practice of pharmacy, dentistry, and nursing. The committee was, however, unable to confirm this report. From the statistics collected it appears, however, that a large portion of the addicts are not engaged in occupations which call for hard labor, and that many are not employed at all or work intermittently. This is especially true of cocaine and heroin habits.

**Effect of Addiction on Health.**—The committee is forced to conclude from its investigations that the habit-forming drugs herein mentioned produce a marked physical and mental deterioration in individuals addicted to their use.

The constant use of narcotics, such as opium, its preparations and alkaloids, produces a condition in the human body which is beginning to be looked upon by physicians as a disease. This diseased condition requires the repeated administration of the drug or addiction to keep the body functioning normally or the institution of medical treatment. The mere withdrawal of the drug induces such fundamental disorganization and such painful disturbances that addicts are driven to any extreme to procure more of the drug with which to allay their suffering. For years, individuals addicted to the use of opiates may appear quite normal to the ordinary observer,

but close attention will usually reveal signs of disease conditions as evidenced by variability of moods, waxy complexion, emaciation, disease condition of the respiratory organs, heart, and kidneys. Continued addiction brings about sexual sterility and thus reduces the birth rate among this class. If impregnation occurs during a period of abstinence from the drug, and the mother later begins using the drug again, the child when born becomes addicted through the mother's milk.

The effect of cocaine is somewhat different. While it causes a more rapid physical and mental deterioration than the opiates, the changes produced are not as profound, and the drug may be completely withdrawn without danger of serious results following. In addition to the systemic effects of the use of cocaine, individuals addicted to this drug often show a perforation of the nasal septum as a result of the local action of the drug when it is used as a snuff. This condition has also been observed in heroin addicts, this drug being usually taken in the same manner. The committee also finds that insanity is not infrequently a result of the use of cocaine in the case of addicts.

In cases where any of these drugs are taken hypodermically, there is frequently noticed abscesses, searing, and disfiguration of those parts of the body in which the needle was inserted. In general the physical deterioration which results from the continued use of any of these drugs brings about diminution in the power of resistance so that the addict falls an easy prey to some other ailment, and thus very seldom reaches old age.

**Effect of Addiction on Morals.**—From information in the hands of the committee, it is concluded that, while drug addicts may appear to be normal to the casual observer, they are usually individuals weak in character and will, and lacking in moral sense.

The opium or morphine addict is not always a hopeless liar, a moral wreck, or a creature sunk in vice and lost to all sense of decency and honor, but may often be an upright individual except under circumstances which involve his affliction, or the procuring of the drug of addiction. He will usually lie as to the dose necessary to sustain a moderately

comfortable existence, and he will stoop to any subterfuge and even to theft to achieve relief from the bodily agonies experienced as a result of the withdrawal of the drug. There are many instances of cases where victims of this disease were among the people of the highest qualities morally and intellectually, and of the greatest value to their communities, who, when driven by sudden deprivation of their drug, have been led to commit felony or violence to relieve their misery.

Addiction to the use of cocaine produces a much more rapid deterioration of mental powers and moral sense. It is this class of addicts that most frequently commit moral wrongs and crimes of violence.

Among the addicts of the underworld, practically all show a low mentality, a lack of decency and honor. This condition, however, is not entirely due to the effect of these drugs, as might be inferred, but is largely the result of degeneracy due to environment and association.

**Relation of Drug Addiction to Crime.**—The committee finds that the drug habit has some bearing on the question of crime. Reports from officials of prisons and reformatories show that a number of the inmates are drug addicts. In 1916, the addicts in the city prison (Tombs) at Manhattan constituted five per cent of the total number of prisoners. There is, however, a great variety of evidence on this subject which has not yet been made clear.

The users of opium and morphine are seldom seen in the courts for brutal crimes. The offenses committed by them in the order of their frequency, as indicated by replies to questionnaires sent out by the committee are larceny, burglary, vagrancy, forgery, assault, and violation of the drug laws. They are frequently aiders or abettors of crimes, but less commonly the leading actors in criminal conduct.

In cases where addicts have committed violent crimes, it is reported that they were users of cocaine or heroin. These are also the drugs which are most frequently used by prostitutes and those engaged in the "white slave traffic." These drugs appear, therefore, to be the most obnoxious.

### **Economic Aspect of Drug Addiction.**—

While the committee has been unable to secure sufficient data to enable it to formulate a statement which will convey exact knowledge of the economic phase of drug addiction, it is believed some idea of the economic loss to the country sustained through addiction may be gained from the cost of the drugs used by addicts and the loss through unemployment of those addicted. It has been computed by the state food and drug commissioner of one of the states having stringent regulatory laws that the average annual expenditure for an addict to satisfy his addiction amounts to \$61.18. Upon this basis of cost of drugs alone, the addicts of this country annually pay over \$61,000,000 for the satisfaction of addiction.

The figures obtained by the committee vary as to the average percentage of addicts regularly employed, employed part of the time, and not employed at all. But it is concluded from a careful analysis of these figures, as well as those obtained by other investigators who have made a study of this problem, that at least 25 per cent of the addicts are not steadily employed in gainful occupations. This would represent at least 250,000 unemployed addicts in the United States. At a conservative estimate this would represent the loss in wages of \$150,000,000 annually. These figures, however, do not include the cost of drug addiction to individuals as a result of loss through theft and burglary, nor the cost to the states and municipalities in the suppression and punishment of crime, and the care and treatment of those who eventually become a charge upon the community.

### **Conclusions and Recommendations.**

From the data obtained the committee is convinced that there is a nation-wide use of narcotic drugs for other than legitimate medical needs, and that such use for the satisfaction of addiction has materially increased in certain sections of the country despite the vigorous efforts exerted in the past four years in the enforcement of the Federal anti-narcotic law, and in the enforcement of the laws of the states and municipalities which have enacted such for the control of habit-forming drugs. Furthermore, it is apparent from the replies

to questionnaires sent out that there has been no definite or concerted action on the part of the majority of the state and municipal governments to suppress the illicit traffic and use of habit-forming drugs, and that there has been but little, if any, attempt made to secure accurate information concerning the problem of drug addiction as a basis for the enactment of proper legislation and regulation. The replies to the questionnaires sent out to state, county and municipal officials show that a great majority of these officials kept no records and therefore had no information upon the subject. This condition is believed to be due principally to a lack of knowledge of the seriousness of the situation. In many cases it is no doubt partly due to the more or less general acceptance of the old theory that drug addiction is a vice, or depraved taste, and not a disease, as held by modern investigators. This attitude has had the effect of holding these unfortunate creatures up to public scorn, and thereby lessening any interest in their welfare. Records having a bearing on any and all phases of drug addiction are of sufficient importance to warrant immediate action for the purpose of remedying these conditions.

Inasmuch as the Harrison anti-narcotic law has recently been amended by Congress in accordance with the suggestions made by the committee in its preliminary report, it is believed that the present Federal statute confers the necessary power for the effective control of the manufacture, sale, distribution, and administration of narcotic drugs, and it is the opinion of the committee that no further national legislation is necessary for this purpose at this time. It is, however, the opinion of the committee that there yet remain several phases of the narcotic problem which merit the consideration of Congress.

One of the more important of these is the question of the responsibility for the care and treatment of addicts who, by reason of the amended statute, will find it difficult, if not impossible, to obtain the supplies of drugs necessary to maintain their normal condition due to habituation. The enactment of legislation on the part of the National Government covering this phase of the problem, likewise the passage of similar measures by the states and

municipalities, is deemed urgently necessary.

There also remains the international aspect of the opium traffic which should receive immediate consideration. If this and the other countries represented at the international opium convention are to effectually control the traffic in opium and other habit-forming drugs, some concerted action is necessary. It is, therefore, recommended that this country, through the State Department, take up this matter with the other powers which were signatory to the international agreement entered into at The Hague in 1912 with a view to persuading such governments to enact the necessary legislation to carry out the terms of The Hague protocol. Otherwise, the task of this country of suppressing the illicit traffic in habit-forming drugs will be rendered much more difficult.

Pending the ratification of The Hague opium convention by the various powers and the enactment of necessary legislation to carry out the terms thereof, it is urgently recommended that the United States Government take up with the governments of the Dominion of Canada and Mexico the subject of more effective control of the manufacture and exportation of narcotic drugs therefrom for the purpose of securing their co-operation with this Government in the suppression of the smuggling of such drugs from one country into the other, which now affords the principal source of supply for the illicit traffic in these drugs.

It is also recommended that educational campaigns be instituted in all parts of the United States for the purpose of informing the people of this country, including the medical profession, of the seriousness of drug addiction and its extent in the United States, and thereby secure their aid and co-operation in its suppression.

It is also recommended that both public and private medical organizations which have research facilities be requested to undertake studies to determine the nature of drug addiction with the view of improving the present form of treatment or evolving some new and more efficient method of handling these patients. The latter statement is made in view of the fact that at the present time there are



numerous forms of treatment for drug addiction, none of which appear to have been given a thorough trial by the medicine profession, as a whole, or to have received the unqualified support of those members of the profession who have had no financial interest in the matter.

It is the opinion of the committee, based on the results of its investigations, that the medical need for heroin, a derivative of morphine, is negligible compared with the evil effects of the use of this alkaloid, and that it can easily be replaced by one of the other alkaloids of opium with the same therapeutic results, and with less danger of creating habituation. Therefore, consideration should be given the subject of absolutely prohibiting the manufacture, sale, distribution, or administration of this most dangerous drug by the states and municipalities.

—Summary from Report of Committee Appointed by Secretary of the Treasury.

## THE NEW ANTI-NARCOTICS LAW.

Chapter 105, Public Acts 1919.

Senate Bill No. 375.

(By F. D. Fuller.)

AN ACT to regulate the sale, barter, distribution, prescription, storing or giving away of opium, cocoa leaves, or any compound manufacture, salt derivative, or preparation thereof, and providing penalties for the violation thereof.

Section 1. Be it enacted by the General Assembly of the State of Tennessee, That on and after the taking effect of this Act, it shall be unlawful for any person in the State of Tennessee to sell, barter, distribute, prescribe or give away any opium or cocoa leaves, or any compound manufacture, salt derivative or preparation thereof; provided that this shall not apply:

(a) To the dispensing, prescribing or distribution of any of said drugs to any patient by a physician, dentist or veterinary surgeon registered in the State of Tennessee under the provisions of the several acts regulating the practice of their profession, in the course of his professional practice in good faith to relieve pain and suffering, or to cure an ailment,

physical infirmity or disease, and while such physician, dentist or veterinary surgeon is personally attending such patient; provided, that such physician, dentist, or veterinary surgeon does not dispense, distribute or prescribe to any one patient more than the quantity set opposite each of the following drugs during any one day or twenty-four (24) hour period, either alone or in combination with any other drug or substance:

Morphine, its salts and derivatives	8 grains
Codein, its salts and derivatives	20 grains
Heroin, its salts and derivatives	2 grains
Dionin	20 grains
Opium or any of its compounds,	
salts or derivatives not above	
enumerated	10 grains

Provided, however, that such physician, dentist, or veterinary surgeon may dispense, prescribe or distribute to any patient incurably addicted to the use of such drug, an amount of such drug necessary for the use of such patient for the period prescribed, not exceeding thirty days, such amount not to exceed per day the amount specified above for any particular drug, if such patient presents to such physician, dentist or veterinary surgeon a certificate in writing, signed by the president, chairman or chief health officer of the County Board of Health or by the president, chairman or chief health officer of the Municipal Board of Health, of the county or municipality in which said patient resides, stating that such patient is incurably addicted to the use of the drug to be prescribed, such certificate to be signed and dated by such county or municipal officer or employee not more than sixty days prior to the date of such prescription, and provided further, such physician, dentist, or veterinary surgeon so dispensing, prescribing or distributing shall write across the back of such certificates the date, name and amount of the drug so dispensed, prescribed or distributed and sign his name thereto, and shall also write upon said certificate and prescription the beginning and ending date of the said period for which the supply is written; provided, further, that no physician, dentist or veterinary surgeon shall dispense, prescribe or distribute any further of such drug under such certificate or other-

wise during any period for which any of said drugs have already been dispensed, prescribed or distributed to such patient by him or any other physician, dentist or veterinary surgeon.

(b) To the sale, dispensing or distribution of any of said drugs by pharmacists registered under the laws of the State of Tennessee governing the profession of the practice of pharmacy to a consumer under and in pursuance of a written prescription issued to such consumer by a physician, dentist or veterinary surgeon registered in the State of Tennessee, under the provisions of the several Acts regulating the practice of their profession; provided, however, that such prescription shall contain the name of such consumer and be dated as of the day on which signed by the physician, dentist or veterinary surgeon who shall have issued the same, and provided further that said pharmacist shall not sell, dispense or distribute any of said drugs or prescription in excess of the amount set forth in paragraph (a) above and in case of prescriptions for more than one day's supply, said pharmacist shall require the presentation of the certificate issued and signed by the president, chairman or chief health officer of the County Board of Health, or the president, chairman or chief health officer of the Municipal Board of Health upon which the physician, dentist or veterinary surgeon issued his prescription and shall write across the back of such certificate the date, name and amount of the drug so dispensed or distributed and the name of the physician, dentist or veterinary surgeon upon whose prescription the drug is sold, dispensed or distributed, and shall thereto sign his name, and provided further that such consumer is the same person to whom the prescription and certificate was issued and such consumer has not already had dispensed, prescribed or distributed to him any of said drugs for the period embracing the date upon which he applies for the drug.

(c) To the sale or distribution of any of the aforesaid drugs by any wholesale drug-dist, dealer or jobber within the State, to a retailer; provided, however, such retailer is not obtaining the same for the purpose of

violating or evading this Act.

Section 2. Be it further enacted, That it shall be unlawful for any person to forge, alter or change in any respect any prescription or certificate mentioned and set forth in Section 1 of this Act, or to procure or cause to be written for him any certificate or prescription in a fake or fictitious name.

Section 3. Be it further enacted, That every wholesale or retail dealer shall keep in his place of business a registry to be made in accordance with the rules and regulations hereinafter provided for; said registry shall plainly show all purchases made by said persons of the aforesaid drugs, date purchased, from whom purchased, and amount of said purchase. He shall likewise keep a registry which shall show all sales of said products, including the date on which sale is made, the amount sold and to whom sold. All retail dealers and pharmacists doing business pursuant to the terms of this Act shall likewise keep on file for a period of two years all prescriptions containing such drugs which have been filled by them. Said records of every character shall be open to inspection by all state and municipal officials who are charged with the enforcement of any law or municipal ordinance regulating the sale, prescribing, dealing in, or distribution of the aforesaid drugs. Physicians who shall dispense or distribute any of the aforesaid drugs provided by this Act shall keep a duplicate of all prescriptions issued by them for a term of two years, and said duplicate shall be subject to inspection by any of the officers named in the preceding paragraph.

Section 4. Be it further enacted, That the possession or control of any of the aforesaid drugs by any persons other than those excepted in Sections one (1) and three (3) of this Act shall be presumptive evidence of a violation of this Act; provided, that this section shall not apply to any employee of any person exempted as above, who has such possession or control by virtue of his employment, and not on his own account, or to any United States, state or municipal officer, board or other authorities who or which has possession of any such drugs for purposes of investigation, enforcement of law, or otherwise; or to



a warehouse man holding possession of same for a person exempted under the provisions of this Act, or to common carriers engaged in transporting such drugs; provided, further, that it shall not be necessary to negative any of the aforesaid exemptions in any complaint, information, indictment, or other writ or proceeding laid or brought under this Act; and the burden of proof of any such exemption shall be upon the defendant.

Section 5. Be it further enacted, That the word "person" as used in this Act shall be construed to import the plural or singular, as the case demands, and shall include firms, corporations, companies, and associations.

Section 6. Be it further enacted, That it is hereby made the special duty of the Pure Food and Drug Inspector and his duly appointed assistant inspectors and chemists to specially enforce the provisions of this Act, and rules and regulations for its enforcement shall be made by the said State Pure Food and Drug Inspector, and the Secretary of the State Board of Health.

Section 7. Be it further enacted, That any person who shall knowingly or wilfully disclose any of the information contained in the registries, prescriptions or other records mentioned in this Act, except for the purpose of the enforcement of the provisions of this Act, or of enforcing any other law of the State or the ordinances of any municipality, shall be guilty of a felony, and shall, upon conviction thereof, be fined and imprisoned as hereinafter provided.

Section 8. Be it further enacted, That the provisions of this Act shall not be construed to apply to the sale, distribution, giving away, or dispensing of preparations and remedies which do not contain more than two grains of opium, or more than one-fourth of a grain of morphine, or more than one-twelfth of a grain of heroin, or more than one grain of codein, or any salts derivative of any of them in one fluid ounce, or if a solid or semi-solid preparation, in one avoirdupois ounce; or to liniments, ointments, or other preparations which are prepared for external use only, except liniments, ointments, and other preparations which contain cocaine or any of its salts or alpha or beta eucaine, or any of their salts

or any synthetic substitute for them; provided, that such remedies and preparations are sold, distributed, given away, or dispensed as medicines and not for the purpose of evading the intentions and provisions of this Act.

The provisions of this Act shall not apply to decocainized cocoa leaves, or preparations made therefrom or to other preparations of cocoa leaves which do not contain cocaine.

Section 9. Be it further enacted, That no retail druggist or dealer shall have on hand at one time a stock greater than five ounces of cocaine or of tropa-cocaine, hollo-cocaine, novo-cocaine, alpha-eucaine, beta eucaine, and if the stock on hand of any one of said substances shall be as much as five ounces, none of the other substances shall be kept on hand at the same time. Said drugs shall not be sold in the flake or crystal form, but in solution only, which said solution shall not be stronger than five per cent.

Provided, that a physician may buy and have on hand for professional use, in local anesthesia only, an amount of any one of said drugs not exceeding one drachm.

Section 10. Be it further enacted, That any person violating any provision of this Act shall be guilty of a felony, and on conviction thereof, shall be punished by a fine or not less than one hundred (\$100.00) dollars, nor more than two thousand (\$2,000.00) dollars, and imprisoned in the penitentiary for not less than one nor more than five years. It shall be the duty of the Circuit and Criminal Court judges in this state to give the provisions of this Act in special charge to the grand jury, and the grand jury shall have and exercise inquisitorial power over any violation of this Act, and no prosecutor shall be required for an indictment against a person for violating the provisions of this Act.

Section 11. Be it further enacted, That all laws and parts of laws in conflict herewith shall be, and the same are hereby repealed, and that this Act shall take effect from and after its passage, the public welfare requiring it; provided, however, that nothing contained in this Act shall be construed to impair, alter, amend or repeal any of the provisions of Chapter 297 of the Acts of 1907 or any amendments thereto.



# **THE JOURNAL**

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### **SUSPENSION LARYNGOSCOPY AND ITS RELATION TO THE MODERN SUR- GERY OF THE LARYNX.\***

By Robert C. Lynch, M. D.,  
New Orleans, La.

Permit me, Mr. President and gentlemen of the Tennessee State Medical Society, to express to you my sincere appreciation for your most cordial invitation to be present at this, your annual meeting, and for the great privilege granted me in being permitted to address you upon "Suspension Laryngoscopy and Its Relation to the Modern Surgery of the Larynx."

What a sincere feeling of delight it must have been when Manuel Garcia, in 1854, viewed for the first time his glottis and vocal cords by aid of a mirror held in the pharynx, reflecting the image into one held in front of the face! This was the birth of laryngoscopy, though the same procedure was thought of some thirty years before by Bozzini, and Czermack in 1858 introduced the concave perforated mirror, using an artificial light as the source of illumination, and practiced laryngoscopy practically as we use it today. As study and investigation proceeded, there developed a surgery of those parts; no more trying an ordeal could be pictured for surgeon and patient, both of whom must acquire most delicate skill and be endowed with unusual patience to accomplish the removal

of growths from the vocal cords in this manner.

The usefulness of a technique depending upon so many circumstances was necessarily limited, and as the art spread into more general use and the less experienced attempted the removal of growths from the cords, there naturally appeared many profound regrets because of the difficulties and inaccuracies of the procedure; parts of the normal cord being removed by this "catch as catch can" method, with the resulting loss of voice and permanent injury of the part.

In the latter part of the same century, 1897, Kurstein described direct methods of laryngoscopy, using a tubular spatula, and Killian, in the same year, removed a foreign body from the bronchus and described methods of bronchoscopy; thus the second great step was made in the more scientific methods of investigation and a more accurate type of surgery was developed, though I am sure there are many here whose left arm aches vividly with the memory of some trying case of his own or as an assistant in attempting to hold the spatula correctly in place during the removal of a tumor or foreign body from within the upper food or airway. Here one hand is busy holding the spatula, while the other, armed with biting or cutting forceps, attempts to remove the offending mass.

Evidently, Killian was not entirely pleased with this direct spatula, and knowing so well its difficulties, he set about to overcome them by some means. In 1909, while working in the laboratory, he placed a long-handled tongue depressor over the tongue of a specimen, hooking the handle over a support at

\* Special address delivered at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

the side of the table, the head hanging free, knowing that it was beyond the power of anyone so suspended to disturb the view by any movement such as gagging, coughing, or the like. Thus was suspension laryngoscopy born, and this marks the third great step toward the ideal of accomplishment.

I began my experience with this instrument early in 1913. After using it for a short while, I soon saw certain deficiencies in the instrument and difficulties with the patients which had to be overcome. A new technique was developed to acquire a view of the whole interior of the larynx, and certain changes were necessary in the instrument to meet the demands made upon it. To tabulate these would be a repetition of my previous publications upon the subject, and with your permission, I will detail the technique as I use it at the present time with the instruments as they are now perfected.

Complete muscular relaxation is necessary to proper suspension, and while in suitable subjects this can be acquired under local anaesthesia, for those cases requiring prolonged dissection or tedious operative procedure, the patient had best be under a general anaesthetic.

The patient lies flat upon the table with the head extended so that the line from the upper teeth to the larynx will be nearly straight. A gag is placed in the mouth to hold it open. The crane is so adjusted to the table that its vertical portion will be on a line even with or behind the shoulders, and the handle which moves the horizontal portion projects sufficiently to permit it to turn easily. With any assistant (not necessarily trained) to hold the head in extension, keeping the chin in the middle line, we are ready to proceed with the introduction of the spatula. Having selected and adjusted the proper tongue plate, and with the tooth plates fixed evenly on either side of the middle line, we open the mouth gag of the spatula sufficiently to see along the under surface of the tongue plate, and passing along the dorsum of the tongue to the hypopharynx, we will see the epiglottis come into view; there the tongue plate is passed to the laryngeal face of the epiglottis in much the same way as in working with the various tube spatulas of Ingalls,

Jackson and others. At this moment the tooth plates will fall behind the lateral incisor or canine teeth of the upper jaw. Now the mouth gag of the spatula is opened wide to fix the tongue in the middle line and the hook on the handle of the spatula is adjusted to the projecting arm of the traveling crane. The crane is now lifted in the vertical to tongue and hyoid region, which straightens the line from the teeth to the larynx, when as a rule the larynx will be in full view. If further tension is necessary it can be acquired first by lifting the crane in the vertical to increase the weight upon the spatula, secondly by moving the crane horizontally forward toward the head of the table, and third by bringing the spatula into an obtuse angle by movement of the worm gear joint on the handle of the hook—any of which, or a combination of which will acquire sufficient tension at the desired spot to bring the larynx into view.

Having the larynx thus fixed before you in plain view with respiration quiet, and with the comforting knowledge that the position is not the result of an assistant's strength or dexterity which might lax at any time, and that the patient cannot possibly dislodge himself either by gagging, vomiting, or coughing, any of which will usually spoil the view by other methods, and the operator seated comfortably before the patient, with both hands free to do any work required. This would truly be a revelation to our old masters who toiled so long and laboriously with mirror and forceps for one peep and a quiet moment in which to work. We can now proceed deliberately with the work set before us with every assurance that it can be continued until all that is desired has been accomplished.

Early in 1914 there came to the Eye, Ear, Nose and Throat Hospital in New Orleans a man aged 54, suffering from an epithelioma of the larynx which involved the left cord from its vocal process to the anterior commissure. After a careful study of his larynx, the growth and his general physical condition, I decided to remove the mass through the mouth by a new technique, which would be complete in its every detail, but without external incision. Accordingly, I had con-

structed the necessary instruments, and with these proceeded to remove the tumor completely, by dissection, delivering it upon a peri-chondrial plate, which is the accepted surgery of the part. This was the first recorded instance in the history of medicine, and marks the birth of the two-handed surgery of the larynx in contradistinction to the one-handed type which had prevailed up to this time.

While discussing the surgery of malignancy of the larynx, I must impress upon you the necessity of careful selection of our cases for this operation because of the seriousness of the condition at hand. I would only advise this operation in those cases where the growth is limited to one cord, where fixation of the joint is not marked, and where the evidence of invasion of surrounding tissue is lacking. In other words, for the time being, only in the earliest cases can we operate in this manner. My reason is the fear that because of either my own or your enthusiasm we may be led into selecting a case too advanced, which can only redound to our discredit and jeopardize the welfare of the patient. If the mass involves both vocal cords, or the posterior half of the larynx, or if there be fixation of the joint or extension downward to the crico-thyroid membrane or upward over the arytenoid cartilage, such a case is not at this writing suitable for removal by dissection under suspension.

In the benign tumors we can practice a type of surgery never before dreamed of, and a description, I am sure, would sound like a fairy story to Furk, Czernack and others of the old school, and probably to some of the more modern school. For instance, in the vocal nodules of infancy and childhood, due to the traumatism of crying or screaming while at play—with this tiny larynx exposed to view, we pick up the vocal cord with small forceps, turn its free edge to view, make a small incision through the mucous membrane over the tiny fibrous mass and remove it by dissection, replacing the cord and covering the wound with tincture of benzoin for an antiseptic dressing. The same procedure is practiced in adults.

I have had four small retention cysts of

the free edge of the vocal cords developed at the nodal points. These were opened, the sack walls curetted and cauterized with a chemical caustic or touched with the actual cautery. Such a proposition could not be accomplished except with two hands free to work.

I find with increasing experience that the pedunculated fibromata which are said to spring from the vocal cord do in reality grow from its under surface and in most instances the actual point of attachment is the area just below the vocal cord or in the subglottic space. To remove these completely can only be done under suspension, that the usual biting forceps cannot be made to grasp the pedicle close to its attachment unless the cord is first held aside by some retraction, this requiring two hands. In one of these, with a rather large pedicle, an elliptical incision was necessary, and fearing lest the remaining raw surface would produce a scar which would limit the function of the cord, I placed a stitch which brought the surface together, and this is the first instance in the history of medicine where a stitch was placed within the larynx without external incision.

In the multiple papillomata of children, my success with the dissection is not so flattering now as with my first series of cases, but while I am unable to bring about a cure with one sitting as first reported, I have yet to report my first failure to cure the lesion. Some come for reoperation and some repeatedly, in one, twenty-nine times in all, but even this boy has a voice of good tone and is breathing through an obstructed larynx in which there is no vestige of the tumor mass to be found. The discussion of papillomata would fill a chapter in itself, and I must not burden you further.

Lesions of the arytenoids area and the folds are frequent and yield readily to this technique. Cysts are dissected completely, raw surfaces are brought together by stitches, tags are removed, malignancies are destroyed by cautery after the method of Percy, and I am the first to undertake this type of surgery in this region, though I can recount to you but one success, reported elsewhere.

Foreign bodies, especially the impacted



type, are easily removed with both hands free to work, and this without traumatism. I recall the case of a pin with its head buried in the base of the epiglottis, the point passing through the mucous membrane covering the arytenoid and burying itself in the wall of the oesophagus. This was missed by an oesophagoscope and a bronchoscope, the foreign body being pushed aside on the entry of the tube. Under suspension it was plain to see why the child could not talk, swallow, or bend his head, and the pin, caught with two forceps, was removed without so much as scratching the mucous membrane. Open safety pins are likewise handled easily, grasping the point with one pair of forceps, and the head with another pair, the two being removed without injury to the part. Crab shells, oyster shells, large buttons, portions of false teeth and a number of other objects of similar character yield to this technique.

Finally, by the aid of suspension, the bronchoscope and oesophagoscope can be passed into their respective passageways with far more accuracy and greater ease than by any other plan thus far adopted. This technique I hope to have the pleasure of demonstrating to you this afternoon.

In short, then, by the aid of suspension and the development of the two-handed surgery of the larynx, we can dissect, ligate bleeding points, produce plastic flaps, suture them in place, and dress the wound in just the same manner as our brother surgeon does his wounds upon the surface of the body. We can cauterize with actual and chemical caustics, accurately remove impacted foreign bodies, and pass tubes into the air way and food way with as much accuracy as our fellow surgeons do in those tubes with an opening upon the surface of the body, and your patients cannot help but be grateful for this accurate, painstaking, deliberate, two-handed technique as contrasted with that ancient one-handed "catch as catch can" method, which is now a thing of the past.

## KERATITIS.\*

By O. Dulaney, M. D.,  
Dyersburg.

I shall not attempt to discuss the various types of keratitis nor to present the characteristics of all the different types, but I shall briefly consider some of the clinical manifestations, etiological factors, pathological conditions of the cornea that I have observed associated with the "flu."

In the past few months I have had under my care a number of eye patients suffering with corneal involvements. In my study of a limited number of cases a few clinical facts stand out clear enough to justify one to state that there is a definite knowledge of the relationship of the corneal involvement to the "flu." As to duration or different degrees, causative factors, bacteriologically speaking, and the treatment of the individual case, all of these present a most complicated problem.

It is extremely difficult to present a classification which will harmonize all different points of view, and in the diseases of the cornea there is a remarkable lack of correspondence between clinical types, anatomical lesions, etiological factors and the functional disturbances revealed by special tests.

The immediate cause of acute inflammation of the cornea is an infection which may be the result of bacteria or their toxins. No organism which has not been found prior to the epidemic of "flu" has been identified in any case of keratitis in the series of cases observed by me. The organisms most frequently found were the streptococcus, pneumococcus, staphylococcus, micrococcus catarrhalis and bacillus of influenza. The degree of involvement was from a slight infiltration in the layers of the cornea to an extreme suppurative type and was nearly always associated with certain subjective symptoms which are present in all forms of corneal inflammation.

In the diagnosis of keratitis the oculist is

\* Read before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association, at Nashville, April, 1919.

confronted by two problems. One is the recognition of the presence of the anatomical lesions of the cornea; the other is the recognition of the cause of the diseased process. It has long been customary to subdivide the affection of the cornea on the basis of the part affected, and the affection of the cornea on the basis of the part membered that an acute involvement of the cornea of any of its particular parts alone is very rare without the involvement of other ocular tissue correspondingly embryologically to its different layers. The pathological process in a great majority of cases of keratitis is due to an infection. There is present a specific organism or group of organisms in the infection of the cornea, which in most cases occur in the course of a general specific disease. The primary focus of infection may be in any part of the body, as the accessory sinuses, teeth, tonsils, middle ear or mastoid, and frequently the genito-urinary and intestinal tracts.

Many different clinical pictures are described by various authors as the result of different kinds of specific organisms, and a description of the symptom complex represented is of much value. We should, however, recognize that there are no clinical manifestations that we can absolutely rely upon from an etiological standpoint, and that a number of infectious organisms may produce a group of symptoms which have heretofore been so beautifully described.

Different symptoms of infection may arise according to the nature or virulence of the infection. No fixed symptomatology will cover all cases, and the different types cover the ground as well as can be done until a more precise knowledge of the characteristic manifestation of the individual infecting organism has been obtained. The pathological process may be further modified by the association of the common pyogenic cocci, and it is difficult to determine exactly the part which these various organisms play in the production of the local lesions.

There is no part of ophthalmology in which the classification of diseased processes is attended by more difficulty than the various lesions of the cornea included under the term keratitis. Numerous attempts at classifica-

tion have produced a most illuminous and confused terminology, because different aspects of the subject have been used as the basis for classifications. Keratitis was first classified on certain associated and subjective symptoms and various forms differentiated mainly on the basis of the clinical picture. Microscopic examinations in connection with the clinical manifestation was the first step in the development of numerous laboratory diagnoses which now occupy so important a place in ophthalmology. This was followed by a period in which the prevailing tendency was to classify ocular diseases on the basis of the pathological anatomy. Important attention was turned to etiology, and at the present day a high regard for classification on an etiological basis is preferable whenever it can be obtained. Owing to the varied and mixed bacteriology of the different forms of keratitis, an etiological classification upon the basis of bacteriology is difficult. Nevertheless, there has been shown to be a certain amount of correspondence between bacterial infections and the lesions produced which has made it possible to separate certain different diseased entities on an etiological basis. It is probable that many of them represent mixed infections. These can be classified only upon the basis of their clinical manifestations. The various causes predisposing to these infections of the cornea act by producing conditions favorable to bacterial development.

There is no doubt that certain children have constitutional predisposition to keratitis and suffer from repeated attacks upon the least provocation. Such constitutional predisposition may be inherited or acquired. The so-called predispositional constitution plays an important part in acute infections and a tendency to ocular disturbances is closely connected with a tendency toward carditis, arthritis, or so many of the so-called rheumatic manifestations. Certain local conditions in the nares, accessory sinuses, diseased tonsils, pyorrhea, apical abscesses of the teeth, also the intestinal and genito-urinary tracts are constantly assuming more importance in the mechanism of infections of the eye.

Primary keratitis produced by any of the infectious organisms except in the ectogenous



cases is of very rare occurrence, and is nearly always associated with or is the result of pre-existing conjunctivitis, scleritis, episcleritis, iritis, iridocyclitis and choroidoretinitis. The infectious organisms or toxins extend to the cornea by continuity, the circulation or lymphatics and nerves. The etogenous process is usually preceded by an injury with the result of the destruction of the epithelium and the infection comes in direct contact with the wounded tissue. In this connection it is well to state that it is claimed by the best authorities that even in the most virulent forms of conjunctivitis it is necessary to produce an abrasion of the epithelial layer before the micro-organisms can enter the cells or an infiltration can take place to cause destructive changes. When the infection involves the epithelial layer only, little or no permanent damage is done to the eye, and vision will be quite normal after its subsidence. But should the infectious organisms or its toxins involve the substantia propria, Bowman's membrane or the endothelial layer, cicatrization and corneal opacities result in every case. A faint nebula to an extensive leucoma are the degrees observed.

Keratitis may be due to the presence of the specific organism in the cornea or to the action upon the cornea of its toxins alone. When caused by the specific organism localizing in the tissue, the local process is more acute and severe than when produced by toxins alone. Infectious keratitis may be the result of invasion of any of the pus producing organisms. The severity of the attack depends not only on the special organism, but upon its virulence. This is true whether the organism is actually present in the corneal tissue, or produced by toxins.

An involvement of the epithelial layer produced by an infectious organism is usually secondary or associated with conjunctivitis that is produced by the same specific organism. Keratitis involving the substantia propria or Bowman's membrane is usually preceded by scleritis or episcleritis. An involvement of Descemet's membrane and endothelial layer of primary origin would be an exceedingly rare occurrence, but is always associated with an involvement of the uveal tract.

This is probably due to the endothelial cells being continuous with the cells of the ciliary body, iris, ligamentum pectinatum.

The cornea proper has no blood vessels with the exception of lymph spaces and inner communicating system of canaliculi and the diseased process in the central area of the cornea is evidently produced by the infection being carried to the point through the lymph or nerve sheaths. In this connection, I would like to state that, from the character and course pursued, evidently the pathology is the result of toxins which produce chemotactic changes that affect the corneal nerves that are distributed in this area. Inflammatory change situated in the deep parenchyma unattended by ulceration is not very common, but when it does occur it is usually the result of syphilis. If the stage of infiltration fails to terminate in absorption and there is destruction of the overlying corneal tissue, an ulcer is the result.

The causes of all suppurations are chemic, whether due to chemical substances, the products of bacteria or the bacteria themselves. Suppuration of the cornea is largely governed by the physie and chemic state of the tissue, as introduction of pyogenic bacteria or endogenous bacillary toxemia will not produce **suppuration without the** chemotactic attraction. The virulence of the bacteria is another thing to be considered, for we must remember that the blood contains bactericidal properties. It is the disintegration products from the richly albuminous bodies which cause the chemotactic action.

A definite organism in the present epidemic of "flu" which would produce keratitis has not been isolated, but the large number of cases of keratitis observed were the result of one or more of the infectious organisms, and especially those that belong to the cocci group. The principal symptom of "flu" is marked depression, with lowered resistance, making the patient an easy victim to general or local infections which may be produced by any of the pyogenic agents. There is usually associated or preceding the "flu" attack a mild or severe pharyngitis or tonsillitis with or without the involvement of the nasal passages or accessory sinuses. The blood ex-



amination reveals a decided increase in the leukocyte count. The more frequent route of infection is through the circulation or lymphatics, with the primary focus of infection in the throat, nose or accessory sinuses. In metastatic infection the pathological process in the cornea is usually the result of an extension from the other tissue that corresponds embryologically to its different layers.

In a number of patients suffering from keratitis at least ninety-five per cent stated that they had had the flu in a mild or severe form. A few of them gave the history of having had pneumonia as a complication, and in these cases especially the corneal involvement was limited to the epithelium only with a small ulcer on one or both eyes, usually flat and healed without cicatrization. These small ulcers yielded readily to treatment, and did not show any tendency to return. In the patients that gave a history of coryza, whether noticed in the beginning of the attack or associated in any manner, phlyctenular involvement was of more frequent occurrence. Slight opaque elevations were observed as in the ordinary cases of phlyctenular keratitis. Associated with this was either a hyperaemia or a phlyctenular involvement of the conjunctiva. A peculiarity of the corneal phlyctenular or its development was that it was not always observed to be in the beginning a marginal keratitis. The phlyctenular is liable to appear anywhere on the cornea, often irregular, sometimes limited to one eye. In two instances one eye was affected at the time, and when symptoms had subsided an involvement of the opposite eye was noticed to occur in a more aggravated form with strong tendency to relapses.

You may find associated with the flu a herpetic type or form of keratitis which presents vesicular eruption and this eruption on the cornea will break down and form an ulcer with destruction of the epithelium. This is always associated with conjunctivitis. When there are small transparent vesicles with no definite lines, the vesicles may coalesce and leave a large open ulcer with the epithelium destroyed. The margins are irregular and are stained easily by fluorescein. In these cases more or less anaesthesia of the cornea

is noticed. They do not yield readily to treatment, and have a strong tendency to relapses.

In the series of cases observed various degenerative changes were noticed, as inflammation with exfoliation of the epithelial cells with infiltration of the lamellae. The formation of the bullae, or wet type, which is different from the dry type, was frequently observed. In some diffused processes there were symptoms suggesting a toxic degeneration affecting both cells and nerve fibres.

A case of keratitis panosa, which also involved the conjunctiva, was seen which presented a highly vascular granulation tissue which seemed to involve the epithelium and substantia propria. This began at the corneal margin and involved the epithelial layer only, but later vascular granulations were observed to extend to the center of the cornea, and deeper lamellae, with distinct gray spots and gray opacities were observed. This patient had "flu" in October, and has never fully recovered.

Certain cases have been observed which presented superficial and narrow furrows, which terminated in knoblike infiltrations near the pupillary margin. One patient was observed with bilateral involvement, with a narrow furrow beginning at the scleral margin 3 mm in width and extending up over two-thirds of the pupillary area. This involvement was noticed in the right eye in the lower nasal quadrant, and in the left eye in the lower temporal quadrant, and absolutely identical in every respect with the exception of the quadrant, but both furrows were in line of axis 120.

Many other peculiar manifestations were observed in a number of cases, but time will not permit me to go into detail to describe the many symptoms of minor importance.

As to the treatment of keratitis, this covers a broad field for thought. The therapeutic value of one remedy in a case would be entirely unequalled for and contra-indicated in another type of the disease. Atropine sulphate is the most generally used and efficient therapeutic agent that we have at our command. However, in the treatment of a very few cases, atropine was contra-indicated on account of the existing increased tension.

Cocaine in any strength seemed to increase the pain in these same cases from a mild to a very severe, agonizing form.

As a whole, the treatment in a majority of these cases was not entirely satisfactory, and the same treatment or therapeutic agent could not be used throughout the entire course of the disease without a change from time to time.

The best answer that I can give in regard to the treatment would be to treat the different forms or types of keratitis as the individual case may require, as we have no absolute specific agent.

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### OCULAR MANIFESTATIONS OF FOCAL INFECTION.\*

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By M. M. Cullom, M. D.,  
Nashville.

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If we look up iritis in the text-books, we find many and varied classifications. Weeks classifies iritis under nine heads, DeSchweinitz under ten, and Fuchs under ten. Under etiology Weeks says that syphilis will account for 75 per cent of the cases of plastic iritis, rheumatism for 20 per cent, and the remaining 5 per cent he divides between infectious diseases, gonorrhea, diabetes, trauma and sympathy. DeSchweinitz gives syphilis as a cause in from 30 to 60 per cent. Fuchs does not give a definite percentage, but says that syphilis is by far the greatest cause of iritis.

In a very interesting and instructive article in the *Journal of the American Medical Association* for June, 1916, Irons and Brown made a very careful study of the etiology of iritis in one hundred cases. Wassermann tests were made in ninety-eight cases controlled by two laboratories, and complement-fixation tests for gonorrheal infections, x-ray pictures of the teeth, sinuses, prostate and other infected tissues were made. Tuberculin tests were also carried out. Thirty-nine of

the hundred cases were syphilitic, but syphilis uncombined with other infections was found in only ten cases. They determined that syphilis was the cause of the iritis in twenty cases. In the nineteen other cases that had syphilis they found the iritis due to other infections. Dental infection was the cause of eighteen cases. Tonsillar infection accounted for sixteen cases, gonorrheal nine, tuberculosis eight, sinuses three, while combined infections accounted for seventeen. Thus teeth, tonsils and sinuses accounted for 37 per cent, as against 20 per cent for syphilis. This is in entire accord with my opinion that many cases of iritis in syphilitic subjects are due to other infections. We are too apt to jump at the conclusion that because the patient has had syphilis the iritis must necessarily be syphilitic. It is my belief that half the cases classified and treated as syphilitic, because the patient has at some time had syphilis, are due to focal infection from some other form of bacteria. When we have found that the patient has had syphilis we must not stop, but must carefully exclude or eradicate other foci.

Dulaney, of Dyersburg, Tenn., has done some splendid scientific work along this line for which he should have due credit. His findings are recorded in the *Journal of the Tennessee State Medical Association* for October, 1917.

The mechanism of focal infection as affecting the eye is well put by my Nashville colleague, Dr. Hilliard Wood, whom I here quote:

"This condition illustrates endogenous infection, metastatic ophthalmia or ocular inflammation due to focal infection. By metastatic ophthalmia is meant that germs floating in the blood lodge in the eye and set up an inflammation. We have a striking example of this when in pyemia, or puerperal sepsis, germs lodge in the eye and set up an acute, purulent inflammation, as a result of which the entire eyeball within a week or so may become converted into a bag of pus, which ruptures through the sclera, and the eyeball remains afterward as an atrophied stump.

"Just what happens when the germs lodge in the eye depends upon two conditions: (1)

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\* Read before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association, at Nashville, April, 1919.

The virulence of the infection; and (2) the powers of resistance of the patient. The germs may be divided into pyogenic or pus-producing germs; and the non-pyogenic or non-pus-producing germs. Of the former, streptococci come first, pneumococci second. Of the second, or non-pyogenic germs, we have especially those germs which are characteristic of certain diseases, such as cerebro-spinal meningitis, influenza, typhoid fever, etc. Pyogenic germs, when they reach the interior of the eye through the blood, often have their virulence reduced, seemingly by their stay in the blood, so that they may produce, not a purulent inflammation, but a plastic inflammation. For example, streptococci, when inoculated directly into the eye, may produce a purulent intra-ocular inflammation, but when they reach the interior of the eye through the blood, they may produce only a plastic inflammation.

"The infections which produce intra-ocular inflammations may be divided into acute and chronic, the acute infections producing the minority of the intra-ocular inflammations, whereas the chronic infections produce the majority. Among the chronic infections may be mentioned tuberculosis, syphilis, gonorrhea after the gonococci have entered the blood current, and that condition of general bacteremia, more frequently streptococcemia, which we commonly know under the name of chronic rheumatism. The layer of the eye most commonly involved in endogenous infection is the uveal coat, of which the iris is most frequently involved; next the ciliary body, and last the choroid. Any portion of the eye, however, may be involved. Even the cornea, which is non-vascular, is not exempt, as in parenchymatous keratitis, due to hereditary syphilis, and in phlyctenular or sclerosing keratitis due to tuberculosis. Whether the intraocular inflammation is produced by the germs per se, or by the toxins of the germs, is still, notwithstanding many examinations and animal experimentations, a mooted question.

"There is a characteristic of focal infection which I am sure most impresses every one—viz., that whenever the original source of supply for the infection is eliminated, the

metastatic inflammation seems to subside. In other words, it appears that in endogenous infections the eye is capable of taking care of a certain amount of infection, provided new supplies are not furnished from the original source."

Nothing illustrates the modern theory of infection better than the change in the point of view in regard to iritis. We are no longer content with a long and labored classification of iritis under a dozen different heads. We now look upon iritis as the result of infection with some form of bacteria. It has definitely taken its place among the diseases attributable to focal infection.

With the change in the point of view has come a definite change in our therapeutic attack. **Formerly we instituted** a regimen of **internal medication** consisting either of mercury and iodine or salicylate of soda. This constituted our assault upon the cause of the disease. Our local treatment of atropin, hot or cold application, dionin and subconjunctival injections, remains the same.

Secure in our reliance upon the classical treatment by mercury and the iodids or the salicylates, we watched our patients drag painfully through a month or two of illness. Now our procedure is different. A negative Wasserman having disposed of a possible specific origin, a hunt for the offender leads to a careful examination of the teeth, tonsils, the sinuses or any other focus where infection can lurk. Having been found, the focus is eradicated, resulting in a marvelous clearing up of the iritis and a great shortening of the course of the disease.

The connection between focal infection and iritis was brought forcibly to my attention some four years ago. I had a patient who was a victim of recurrent iritis. Twice a year he had attacks of iritis, sometimes in one eye, sometimes in both. The attacks usually lasted a month or six weeks. I came to expect him in May and August, and he did not disappoint me. About four years ago he said to me: "I have been hearing a great deal about the connection between iritis and diseased tonsils. I wish you would examine my tonsils." He had a specific history, and I had always assumed that his iritis



was the result of syphilis. However, I examined his tonsils and said: "While I can express a little pus from them, they do not look particularly bad." He said: "Well, anyway, I want you to take them out.. If there is any benefit to be had from the operation, I want it." I removed his tonsils, and from that day to this he has had no attack of iritis. A month or two after the operation one eye reddened up a little and looked as if an attack might be coming, but it passed off in a day or two. The same thing happened last winter after getting wet and suffering from exposure, but no genuine iritis made its appearance. Since then I have removed the tonsils in two other patients whom I had treated through a number of attacks of recurrent iritis. Neither has suffered an attack since.

My experience with the first case put me to thinking. Two patients with acute iritis consulted me. Having a negative specific history, I examined their tonsils. One gave a frank history of repeated attacks of tonsillitis; the other gave no history of tonsillitis, but pus was present in the tonsils. I decided to remove their tonsils in the height of the attack of iritis. One case was especially violent; the other of ordinary severity. In each case on the next day after removal the eye was almost white, the pain was gone, and the patients were entirely comfortable. I have now had twelve cases operated upon in the height of the attack, and each case has responded in the same remarkable way. One case is worth recording.

**Case 4.**—Mr. H., white, married, age 49, came on Sunday morning with a violent iritis of the right eye. Has definite history of rheumatism. Rheumatism now of the right arm and shoulder. No specific history. Has never had tonsillitis. Tonsils large and liquid pus can be expressed from them. Atropine instilled, hot applications ordered, and atropine and dionin solutions given for home use. Salicylate of soda given internally. The patient passed a restless night and complained of great pain. I found that as a result of atropine instillation the tension of the eye was greatly increased, which accounted for the increase of pain. I was obliged to instill

eserine for the purpose of lowering the tension. The next day I had great difficulty in dilating the pupil, which had gotten very small as a result of the eserine. But for the complications of glaucoma I would have insisted on the immediate removal of his tonsils, but his suffering was so great that I hesitated to add another complication to his troubles. For ten days I seesawed between atropin and eserine. When the pupil would dilate tension would at once set up with onset of agonizing pain. When eserine had reduced the tension the pupil would become so small that there was great danger of permanent occlusion of the pupil. Meanwhile the patient was suffering such pain that he was getting no rest day nor night except from opiates. He finally said to me: "If you think removing my tonsils offers me any hope of relief, take them out as quick as you can." I removed them under local anesthesia, but, I must say, with some misgiving. After the operation his wife said: "Please give me a prescription for an especially strong opiate for him. With the terrible pain he is suffering with his eye and the pain he is bound to suffer with his throat, I know that neither he nor I will have any rest unless you give me a very strong opiate for him." I gave her a prescription for a solution of morphine. When I called the next morning I found the patient cheerful and happy. He said: "I haven't had a pain in my eye since the tonsils came out." His wife held up the morphine solution and said: "It is unopened, just as it came from the druggist." He never had a pain in the eye after the operation, and in a few days it was white and his iritis gone.

**Case 5.**—Mr. F. W. A., age 31, came from Atlanta, where he had consulted Dr. Ridley, who diagnosed iritis of the right eye. He was suffering an acute attack of iritis of the right eye. Patient denied specific history. Had suffered severely from "rheumatism." I examined his tonsils. He had never had tonsillitis and his tonsils did not look bad. When questioned in regard to his teeth, he said he had two that were dead. He was advised to have his teeth x-rayed. His dentist at Galatin, Dr. Holder, x-rayed his teeth and said there was infection, but hesitated to remove

them. He asked for consultation with Dr. Boyd Bogle. Dr. Bogle advised removal of his teeth. All this consumed several days, and the iritis increased in severity by leaps and bounds. By the time the decision to remove the teeth was arrived at, the cornea was surrounded by a ring of chemosis, and the upper lid was greatly swollen. The next day after the removal of the teeth there was a complete change in the picture. The chemosis was gone, the swelling of the lid had disappeared, and the patient was entirely comfortable. It is now a week since the removal of the teeth, and the patient is practically well.

**Case 6.**—On June 8, 1918, I was called to see Mr. W., who was in bed with what was called "bilious fever." I found him suffering from an ulcer of the cornea in the right eye which was characterized by pain, photophobia and spasm of the orbicularis, so that even with cocaine anesthesia it was very hard to get a view of the cornea. I cauterized the ulcer with tincture of iodine and the next day the symptoms were better and he apparently improved for several days. By this time he was able to come to the office. After three or four days he had a relapse and I discovered another ulcer. I diagnosed the type of ulcer as herpes corneae febrilis. On my first visit I asked him if he had had any trouble with his tonsils. He said: "I have no tonsils." I assumed from his reply that he had had his tonsils removed, and did not examine them. I treated this patient for more than two months, cauterizing each successive ulcer with iodine, which would check its course and would be followed by improvement for a few days, only to be succeeded by a fresh eruption or a relapse of an old one. He was running a temperature of one to two degrees constantly. I thought he perhaps had malaria, as he had lived in Memphis previous to coming to Nashville. A course of quinine was followed by improvement, but it was not permanent, and he settled back into the same rut. He was a stenographer, and of course keenly felt the loss of time which ulceration of his cornea entailed. After about two months he said to me one day: "I deceived you about my tonsils." I exam-

ined his throat and found a pair of large tonsils filled with cheesy pus, and the next morning removed them. At the operation under ether I removed a pair of large, badly infected tonsils with numerous abscesses full of foul pus. My assistant remarked, "Now is a good time to cauterize those ulcers," because the spasm of his orbicularis had been so great that we had been able to cauterize them only with great difficulty. I said: "No, I am going to see what this operation does for him unaided."

When I entered his room the next morning he was sitting up in bed with both eyes wide open, and said: "Doctor, I haven't had any pain in my eye since the operation, and the light does not hurt it a particle." His eye was white and the ulcer had apparently healed. I did nothing more for his eye, and in about four days he returned to his work as a stenographer, and has worked continuously since. He gained about twenty pounds in a short time, and from a thin, cadaverous, unhealthy-looking man, became ruddy, robust and healthy.

I believe that the type of ulcer described as herpes corneae febrilis, characterized by relapses, is due to a focus of infection and that it will disappear promptly upon removal of the focus.

**Case 7.**—A gentleman, 45, Mr. S., consulted me on June 15th for iritis. He gave a history of numerous attacks. I asked him about his tonsils. He said: "There is nothing wrong with my tonsils; I never had tonsillitis in my life." I examined his tonsils and found pus in them. He had no specific history, and I strongly urged removal of the tonsils. He declined, and I carried out the routine treatment. After about four days he appeared at the office and said: "I suffered death with this eye last night, and if you think removing my tonsils will help me, go ahead." This was on Thursday. I said: "I don't see how I can get to you before Monday, as I am engaged up to that time." He said: "Can't you take them out right now?" I said: "Yes. I will;" and removed them forthwith. His sister, who came with him, said: "Please give me some morphine for him, for I don't want to go through with



what I did last night." I said: "You won't need any morphine tonight;" but later in the afternoon she sent again and insisted on me giving her some morphine for him. I refused and assured her that she wouldn't need it. The next day he assured me he had no pain after the operation, and by the next day his eye was practically white, and, to all intents, well.

**Case 8.**—Mr. H., age 37, came to see me on August 1 with a fully developed attack of iritis in the right eye. He was very much depressed. He said: "I know what I am in for. I have had frequent attacks of iritis, and I am always laid up from two to three months with each attack." He was a large contractor and said that he had lost a total of twenty-four months from his business, due to iritis. He denied any specific history. I asked him about his tonsils. He said: "Do not worry about my tonsils. They have been examined and passed by every specialist from New York to Florida." I examined them and found that I could express pus from them. I told him that I thought his tonsils should come out. He was rather shocked at the idea, and declined for the present. However, two days later, his iritis having grown steadily worse, he agreed, and I took him to the hospital and removed his tonsils under local anesthesia. As usual in such cases, I found his tonsils much worse than their external appearance would indicate. The left tonsil had an abscess cavity containing about a dram of foul liquid pus. A feature of his case was intense photophobia. He asked me to get a room at the hospital that could be thoroughly darkened. He had rigged up a pair of black goggles which were reinforced with black cloth so that no ray of light could get to his right eye. With his room darkened and thus protected, I left him after the operation. The next morning when I called on him at the hospital, I found him sitting up in bed with the window shades up and his goggles off. His eye was practically white. He said: "I haven't had a pain in the eye since the operation, and the light doesn't hurt it at all." As soon as his throat healed he returned to his business.

**Case 9.**—This is a case that frankly puz-

zled me, and I report it for what it is worth. Mrs. G., aged 55, consulted me for sudden loss of vision in her right eye. On getting up in the morning she had found herself blind in her right eye. On examining the fundus I found a picture strongly suggestive of thrombosis of the central vein. The vessels were large and tortuous and the fundus was covered with numerous hemorrhages. There was no perception of light. I told her that I thought her eye was hopelessly gone, and sent her to her family physician for examination of her heart and blood vessels and urinalysis. After three or four days he reported heart, blood pressure and urine normal. In the routine examination I found that she gave a history of rheumatism and occasional attacks of tonsillitis. I advised removal of the tonsils, which she agreed to, and the tonsils were enucleated about ten days after her first visit. I did not see her again for a week. When she returned, the first thing she said was: "Doctor, I can see some with that right eye." I said: "I hardly think so." She said: "Yes, it has been improving a little every day since the operation." I examined her and found that she actually had a vision of 20-100. This improved until within two weeks she had a vision of 20-40, which she has retained. She describes the appearance of the test letters as "spotted," due, no doubt, to areas of atrophy at points where the hemorrhages occurred.

This case may have been a pure coincidence, but it is well to record it and be on the lookout for similar cases.

In addition to my own cases, Dr. Hilliard Wood has kindly consented to report one of his cases directly in line with those reported above:

"T. Y. C., age 38, male, married, consulted me September 10, 1917, giving the following history: In 1907 he had tonsillitis, followed by severe general 'rheumatism' for ten months, with confinement to bed. In 1914, was operated upon for appendicitis, with good results. On August 23, 1917, his left eye developed acute iritis, which was treated by a colleague with atropin, dionin, warm applications, salicylate of sodium, iodids, etc. Some improvement was followed by a relapse.



When I saw the patient September 10, 1917, the left eye showed marked irritative symptoms, great pain, peri-corneal injection. The pupil was dilated by atropin. No synechiae was found. There were a few points of pigmentation on the anterior lens capsule, and no evidence of eyelitis. Examination showed enlarged and very septic faucial tonsils. Diagnosis: acute plastic iritis. Advised tonsillectomy. Removed faucial tonsils under local anesthesia. Iritis began to improve immediately after the tonsillectomy. Next day the patient was free from pain in the eye. A week later the general congestion about the eye had in the main cleared up. Two weeks after tonsillectomy the patient assured me that his eye was perfectly comfortable, and had been so since the day the tonsillectomy was performed."

The special point I wish to emphasize in this paper is that every case of iritis should be rigidly investigated for the source of infection. If it is determined that the tonsils are at fault, remove them at once; the more severe the iritis, the stronger the indication for removal. If the teeth are responsible, remove them and drain the alveolar abscesses. If the sinuses are the source, drain them. In other words, the foci should be eradicated at once without waiting for the iritis to clear up, as obliteration of the focus is the most important step in the treatment of the iritis.

Iritis is not the only eye condition I have seen benefited by surgery. On two occasions I have seen recurrent ulcerations of the cornea in children clear up as if by magic upon the removal of adenoids. I have repeatedly seen phlyctenular ulceration clear up after removal of adenoids and tonsils.

It is in fields of this kind that we strive to uphold the best traditions of the profession. Not content to follow mere symptomatic treatment, we must search every portion of the body in an effort to find the true etiology of disease and eradicate it at its source. Wonders have been accomplished, but just as many miracles remain to be performed if we follow along the same path. Let us approach our unsolved problems in the true scientific spirit without prejudice and with an open mind.

## DISCUSSION.

The Chairman: Gentlemen, this completes the papers of the symposium. We are now ready for discussion. Dr. Cullom is down for the opening of the discussion of Dr. Dulaney's paper.

Dr. Cullom: I suppose the Doctor is put down to discuss my paper. Suppose we discuss them when we wind up.

Chairman Scott: It is open for general discussion—Dr. Dulaney's paper.

Dr. Hilliard Wood, Nashville: Mr. Chairman, I wish to discuss Dr. Cullom's paper for just a moment. The doctor omits one point—i. e., that all involvements in which there is a history of specific trouble are not syphilitic involvements. That is a point with which we are all familiar, but which we all may overlook; certainly I have done so.

I wish to report a case of a middle-aged gentleman, Mr. G., who was under treatment for secondary syphilis by one of our local syphilographers. He had a positive Wasserman, with recent general eruption. In this condition he consulted me, complaining of impaired vision in one eye. Upon examination, I found what appeared to be syphilitic neuro-retinitis, with the usual ophthalmoscopic findings. I told both the patient and his syphilographer that he had neuro-retinitis, due to syphilis, and advised that the anti-syphilitic treatment be administered to tolerance. This was done. The eye condition became gradually worse through several weeks, and even for two or three months, notwithstanding the fact that the anti-syphilitic treatment was administered and that the Wasserman gradually became negative. Later I decided that he had infected tonsils, and advised their removal. The patient objected to this, and the operation was not done for a month or six weeks. Meanwhile his vision continued to decrease and the neuro-retinitis gradually became worse, and was accompanied by choroiditis and vitreous opacities, until his vision was possibly fingers—I do not recall the exact vision. He then agreed to a tonsillectomy. At that time the eye was inflamed and painful, and the vision practically nil. We then removed his tonsils under ether. The next day when I saw him at the hospital, he said: "Doctor, my eye has felt better since the operation." To make a long story short, the whole condition subsided with that operation. I do not mean that he now has a normal eye, for changes took place during that lapse while we were waiting from which he will never recover; but the condition was checked from the time of operation, the suffering disappeared, and the patient has been absolutely comfortable since that time as contrasted to continual suffering for months previous to operation. It is perfectly clear to my mind, as clear as any demonstration

can make it, that the neuro-retinitis was due to focal infection of tonsillar origin, and that it was checked by the operation of tonsillectomy, although the operation was done too late to prevent the loss of his vision, which has in the main been destroyed.

I had another interesting case of iritis, which Dr. Cullom referred to in his paper, in which the curative effect of the tonsillectomy was almost dramatic.

Dr. Geo. H. Price, Nashville: Gentlemen, I am very much interested in the subject as presented by Dr. Dulaney. I am very glad indeed to have heard his paper, and I am also glad to have heard the paper and reports of cases by Dr. Cullom. It is very evident that other diseases of the cornea or diseases of the iris, aside from those that Dr. Dulaney differentiated as superficial conditions due to abrasions of the cornea and infection from the organisms usually present in the conjunctival sac (and those were largely limited, I believe, to the pneumococci) are dependent upon infection of focal origin. Now I was a skeptic in regard to that matter, as the doctor will recall when he made some reports some time ago, but I have seen and heard and read the results obtained by finding and localizing of the point of the infection, and the results following the removal of the point of the infection, until I am practically converted upon that particular feature of those conditions. It is true that every form of keratitis is not what you might term or call systemic in origin, but whenever we have complications of focal infections and the focal agent—that is, the infectious agent in the focus of infection has reached a point where the system itself can no longer absorb and destroy through the white blood corpuscles and cells the amount of pus thrown into the stream, or the amount of pus plus the specific organism, wherever this has found a lodgement, we are apt to have a manifestation of inflammatory character, due to the presence of this in that particular tissue. There is no one understands more fully than I myself what focal infection means, because I passed through last year a most serious attack due to focal infection, the origin of which was in my teeth. Not every case of iritis, nor every case of keratitis, can be attributed to focal infection. I have now under observation, or have had recently, two cases, one in which the focal infectious origin was presumed to be in the tonsils. They were removed; the patient was put upon treatment, and yet the condition in the eye continued to grow worse, an interstitial keratitis. This patient gave a distinct history of specific trouble, and this only goes to carry out and to reinforce the point raised by Drs. Cullom and Wood—namely, that not all cases in which we have a distinct history of specific trouble can be attributed to specific trouble—that is, to syph-

ilis, but we may have some cases in which the focal infection at some other point is the determining factor in the production of the infection which we find present and complicating the specific cases. That arises from the fact that the specific infection lowers the resistance on the part of the patient to a point where some more active infection, more recent in origin, more pronounced in its effect, becomes the dominant factor, resistance having been lowered in the case primarily by the infection of syphilis, renders the patient more susceptible to some other infection of more recent origin, in the tonsils, the teeth, or some of the accessory sinuses. However, when the more recent exciting cause has been removed, the more remote predisposing cause must be treated. My experience and observation recently have impressed the subject of focal infection upon my mind, because I have seen several cases in which there was iritis, corneal irritation and inflammation of the episcleral tissue, in which I believed and felt that there was a source of infection, and on investigating, found that the teeth of these individuals were very much involved. Patients who do not have at first a direct and immediate pain from the effect of bad teeth or bad tonsils, will resist any suggestion as to their removal. Let me just give one little history of one case, and I am done.

I had a patient who had a very badly injured eye, had a very bad injury to the cornea. I thought he would lose the eye. When he was put into the hospital, he was suffering when I first saw him, but this was right after the accident. The patient developed much pain, and finally he began to complain of his teeth. I advised such remedies as could be used in the hospital, and asked him to have his teeth investigated. The patient, in a few days after that, developed practically a condition of acute tic douloureux. He resisted this suggestion, that his teeth were at fault, but he had his dentist come to see him. I want to observe that I could not make out there and then that he had a definite irritation due to infection from his teeth, but I thought so. At the height of his trouble, the very height of it, when he was suffering desperately, and so weak, seemingly, that he could hardly navigate, his dentist went to his house and pulled several of his teeth. He immediately became better; and before the case had been finished he had a large number of his teeth removed, and all the symptoms seemingly attributable to the eye were removed, and the eye made a very satisfactory and rapid recovery.

Dr. Robert Fagin, Memphis: Mr. Chairman, I am sorry that I did not get to hear Dr. Dulaney's paper. I enjoyed Dr. Cullom's paper on focal infections.

I wish to briefly report a case that I have under observation now. This man was treated



by another oculist at my home. He gave a history of syphilis. He was treated for iritis. The doctor did not have a Wasserman, but simply thought his iritis was due to syphilis, and he started him on the mercury and iodide. He took, I believe, about six ounces of this before he came to me. When he came to me and wanted me to take charge of his case, after he had taken this iodide and mercury, I insisted that we stop it and have a Wasserman made, and also insisted that he have his tonsils looked after, and his teeth, and a physical examination of his prostate. He gave a history of gonorrhea, too. I told him that because he had had syphilis in the past, it was not certainly the cause of his iritis. The Wasserman was negative, the spinal fluid was negative. The x-ray showed some condition in his teeth, and two of his teeth were removed; his tonsils were also removed. When he came to me he didn't have light perception in this eye. The pupil was nicely dilated with the atropine, but there was not even light perception, and when one looked in with the ophthalmoscope one could see in the eye about as well as he could see out of it, it was so dark. With the teeth removed, and the tonsils removed, it went on about two weeks, and he did not improve at all. We seemed to get no benefit from this. He was given then some real German salvarsan, that was obtained, and on the first dose of this he made a little improvement in the inflammation; the external inflammation of the eye has finally subsided; the vitreous is clearing up some; one can see in there the least bit, but the patient does not even get light perception yet. I have never seen an individual—he is a young traveling man—who hated to lose an eye so badly as this man does. He feels like perhaps the other eye will go in the same way, and he felt, from the very beginning, that this eye was gone. We have done everything possible to find the cause and to remove it, but we have not had the result that we hoped we would get. I do not believe that his iritis was caused from syphilis. I believe perhaps yet there is some focal infection that we have not located. I thank you.

Dr. A. C. Lewis, Memphis: I want to say a few words with regard to Dr. Dulaney's paper about keratitis, only about the treatment. He failed to mention what I consider the most important treatment in keratitis, something that is good in all cases of keratitis, whether of syphilitic origin or atheromatous or rheumatic—that is, dionin. There is nothing that does the work in keratitis that dionin does. It is good. I would say, in each and every case. It is not only an antiphlogistic, and relieves pain, but has a tendency to lymphagogue action. In every case of keratitis, whether active or latent, whether it is remote or of recent occurrence, it is very, very helpful, and

I just want to register a good word for dionin in all cases of keratitis.

Dr. Potter: I do not wish to prolong this discussion too much, but Dr. Fagin's case recalls to my mind a case I saw some time ago of a gentleman who had periodic attacks of iritis. He had been taking the iodid of potassium and mercury, and he had taken it for a long time. He had no specific history, and he had a negative Wasserman by two or three laboratories. He had had his teeth examined, and he had had his tonsils examined. eW found that he had two or three bad teeth, which were extracted. He still had attacks. It seemed that they had not found the trouble, and he proceeded to have a bridge made where he had these teeth extracted. He fell into my hands some months ago. I was looking for a focus of infection. He had another negative Wasserman, no history of syphilis, either. But I insisted on him having an x-ray made of his teeth. He said: "My teeth are all right; I have had numerous examinations of my teeth, and I am sure they are all right. I have no bad teeth, and I feel certain; but if you insist, I will have an x-ray made." I insisted, and he did have this x-ray made, and found, under this bridge, where these teeth had been pulled, a root of one three-quarters of an inch long—not that long—half an inch long. All around this root was a very well defined shadow—a great area around this root that was causing this man's trouble. The point is that it is well enough to follow up these cases, and make an x-ray, even after those teeth have been extracted. Now that man's iritis cleared up almost immediately; and he had suffered for a number of years periodically—like your case, Doctor, two or three times a year; and in spite of all those negative findings, and in spite of his having these teeth extracted, he had the infection right in the teeth. And the tonsils may be the same. He may say, "I have had my tonsils removed;" but you look down there, and you will see that he only thinks he has had them removed; he has had part of his tonsils removed, and he often has a little pus pocket below the part that should have been removed. The idea is to be careful in examining these fellows, and find this focus where the other fellow has overlooked it. You will do that in a great many instances.

The Chairman: I am very sorry to state that the time is now up. These subjects are very important. It is unfortunate to have to close the discussion, but at this time we will have Drs. Dulaney and Cullom close the discussion.

Dr. Dulaney (closing): I did not attempt in any manner to go into the details of the treatment of the cases reported in my paper; but in regard to what Dr. Lewis had to say as to dionin, I want to state that I could not rely on dionin in some of my cases on account of increased ten-



sion produced when used. In some cases observed by me localized keratitis even in the interstitial form seemed to extend the involvement. This is a peculiarity noticed in the use of dionin. I believe where a lesion is produced by the toxins, and has its direct effect upon the nerve fibers, it is in those particular cases that the dionin seemed to increase the pathological condition; otherwise I believe that he is absolutely correct. It is only in those peculiar types that I failed to get any relief from dionin. But dionin certainly is, as Dr. Lewis has said, indicated in the majority of cases of keratitis. It is a remedy that we have to rely on, equally as efficient in eye cases as atropine.

But my main idea was to discuss, principally, the causative factors of keratitis, as in some of the types that have been previously reported, sufficient grounds were not given for their cause. We are aware that there are any number of diseased conditions of the eye in which the pathology can be traced or produced, ordinarily, as a secondary form, from focal infections; but glaucoma, iritis, iridocyclitis, and, in fact, most anything. I have seen one cataract case, an acute condition that terminated in the cataract, following the flu. There is no history of the patient having any prior trouble, having been absolutely normal and the cataract formed inside of a week's time, and other symptoms were pronounced with it, but all the exudates and things of that kind that were associated with it absolutely cleared up, with the lens opaque, and seemingly it is going to be a case where the lens can be removed later on without much difficulty.

The tonsils, the accessory sinuses of the nose, or focal infections of the head and neck, are not all together the causes of eye symptoms. We must not lose sight of the genito-urinary and intestinal tracts in producing these symptoms. So many chains of symptoms can be produced from the original organism, as different groups originate from the organism of the original infection. Thus you are liable to have any part of the anatomy affected from the different types of the same groups. Vegetation have their affinity for certain kinds of soil; likewise, bacteria have their affinity for certain parts of the body. Some micro-organisms have their affinity for the nerves, some the muscles, and some for the vascular system.

Dr. M. M. Cullom, Nashville (closing discussion): Mr. Chairman, I will try to be brief. I want you to know I am very glad to notice that these gentlemen, in reporting cases, have shown that they make a very careful study for focal infection. That is something that they would not have thought about a few years ago. I noticed, a few days ago, the report of a case by a very prominent Philadelphia oculist—I forget what his name was—I believe it was Wendell—in

which he reported a case of iritis with just the same dramatic clearing of the infection following the removal of the tonsils. He wrote as though he had never heard of such a thing before; it seemed to astonish him greatly. But with all the profession having their minds focused on focal infection, those things are going to be commonplace in a little while.

I want to endorse what Dr. Lewis has to say about dionin. I have a little pet formula of my own, which I have inflicted on my confreres sometimes. I have a few grains of yellow oxide and dionin put up together, as a salve, and it is my greatest reliance in ordinary keratitis. Put up about three grains of the yellow oxide and about six grains of the dionin to an ounce of vaseline, and it will come nearer sterilizing the eye and clearing up ordinary infections of the cornea than any one formula that I have ever tried. I have it put up in a collapsible tube, too. I think that is quite an improvement, as it keeps it clean. I thank you.

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### MEDICAL BOOKS AND DOCTORS OF THE OLDEN TIME—A RETROSPECT.

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By I. A. McSwain, M. D.,  
Paris.

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In rummaging through our library a short time ago, we became interested in quite a number of ancient books on medical and surgical practice, and while it may not interest others, we found it to be a very interesting exercise, entertaining as well as instructive.

We first opened the works of Hypocrates, which may be justly denominated as the Bible of medicine. It is a marvel in its scope and proves the ancient author to be indeed Solomon of medical science. He was born about 460 years before Christ, and was contemporary with many of the great men of Greece—Pericles the statesman, the poets Sophocles and Euripides, the venerable historian Herodotus, the philosopher Socrates and his disciples, Plato and Xenophon, and many other illustrious men of the most illustrious age of ancient Greece. Mythically Hypocrates was descended from Easculapius. He was allied to a great degree with the temples of health then in existence, which, as is well known, combined the Aesclepiian methods of religious ceremonies, incantations, mesmerism, music, entertainments and baths,

together with an absence of food and the administration of such remedies, few, indeed, as were known at that age.

Hypocrates brought to his aid the philosophy of the times in his remarkable history and management of disease, and by the study of the human body and the various organs became an expert in surgery, especially in the treatment of fractures and dislocations and in thoracic and brain surgery.

His adjustment and dressing of fractures have been but little improved on since his day, and many of us could be profited by noting in detail his method of applying bandages and splints to the injured bone. He was careful to begin just over the seat of the fracture with his roller bandage and proceed upward to the proper height deemed necessary, then return to the starting place, the seat of the broken bone, and proceed downward toward the distal extremity of the limb.

His diagnosis of dislocations of the shoulder and hip joints and the reduction of the displacements are to be recognized as worthy of imitation. He evidently was mistaken in dislocations of the wrist joint, as he undertook to specify the different directions in which the joint was dislocated, for it is well known that these dislocations are exceedingly rare and that nearly all such cases which appear to be dislocations of the wrist are fractures of the lower end of the radius. Hypocrates' mistake in this regard, however, is perhaps often made in this day.

His description of many diseases was definite and showed remarkable study and insight into the nature and character of the diseases, but his therapeutics was meager. He attached great importance to what he called "Ptisan" in nearly all complaints and gave the most positive directions as to its use, believing that it would prove fatal if used under unfavorable conditions. We would hardly think that the drug with the peculiar name of "Ptisan" would be either very efficacious or harmful, it being a decoction of barley. His treatise on "The Prognostics" is extensive, and we read it with much interest. He attributed great importance to the position of the patient, the facies, the condition of the mind, and his description of the signs of im-

minent death have given us the term "**Hypocratic countenance**," which is thus described: "A sharp nose, hollow eyes, collapsed temples, the ears cold, contracted and their lobes turned out, the skin about the forehead rough and parched, the color of the whole face being green, black, livid or lead colored." Again he says: "When in acute fevers, pneumonia, phrenitis, and other acute diseases, the hands are waved before the face, hunting through empty space, as if gathering bits of straw, picking at the bed clothes, all such symptoms are deadly."

One of the aphorisms of Hypocrates, and a very important one for us all, was, "The aim of the physician should be to do good to the patient, and be sure not to do harm."

Another of the aphorisms was, "Nature is the physician of disease." Taking this as an important basis, he studied carefully the character of the ailment, and especially its natural tendency, whether toward recovery or death. We dare say even at this age, we would be wholly at sea and medicine would be little less than empiricism, unless we duly consider this truth. If a disease has a natural course which, if left to itself, would surely result in recovery, then the physician need do but little more than to practice the methods of expectancy, meeting such symptoms as needed to be relieved, and abstain from meddling interference with nature's laws.

Honest conviction as well as observation of disease for thousands of years by men most eminent in the profession abundantly sustain the truth that, in our administration of remedies, we should be governed by a close study of efforts made by nature to throw off the disease and to assist her in a logical manner. But if we regard "fever," for instance, as the disease, we make the mistake which is so common and about which the popular mind is so much disturbed that our efforts should be concentrated on "cooling the fever." About a score of years ago, the profession ran wild in this regard and the coal tar preparations had a leading place in therapeutics; and manufacturers of drugs made up preparations without number and a nomenclature that was astounding, each



one insisting that this or that preparation was a *sine qua non* in the treatment of all sorts of "fever." Little study was given to the real cause of "the fever," just so it was fever, and acetanilid, phenacetine, antipyrin, ammonol, antifebrin, at id omne genus were administered. This writer does not plead exemption from this practice so much in vogue a few years ago, but we all must confess that such a practice is nothing more or less than empiricism. Hippocrates was never guilty of this sort of practice.

One of the most distinguished principles of Hippocrates in his theory and practice was, as stated "prognosis," a matter which we fear modern medicine gives too little attention. He not only gave heed to those ailments which naturally had a tendency to recovery, and applied his remedies accordingly with the aphorism constantly before him, "not do harm" with medicines, but, on the other hand, if the disease tended toward dissolution instead of recovery, his activities were expended "to obviate the tendency to death." A study of these two important principles involved an acquaintance with the hereditary predispositions and antecedents of the patient, as well as present environment and the general condition, sanitary and otherwise, of sick room and of the patient. In pursuance of these marked tendencies, and especially the latter (that is, to death) heroic remedies were by him often resorted to. He believed in bleeding, and the idea was to take the blood away from a distant part to that organ or tissue which was diseased, and thus produce what he called "revulsion." He advocated the destruction of dead or putrid tissue from wounds and ulcers and other sores by the use of escharotics and the actual cautery.

We desire to say just here that in reviewing we find that the practice in the late war as described by leading surgeons has been to cut away every particle of dead and bruised tissue as a preventive of gangrene and sepsis. It may seem to be a return to most primitive methods and a far call when we assert that this same principle was advocated and practiced by "the father of medicine" two thousand four hundred years ago, and one would

conclude that after all the boasted reforms claimed by surgeons of some of the guilds, the progress on some lines has not been so much by leaps and bounds as we hear often claimed.

We are very apt to conclude in medicine, religion and politics, that we live in an age of superior wisdom and look with disdain on men and methods of the past. We would not like to be misconstrued as pessimistic regarding "progress," but we are heartily in accord with advances in any line of activity. We stand today on tiptoe of expectation looking ahead for something new and inspiring, and rejoice on seeing matters and things grow greater and wiser and better and believe with all our heart in the ever-enduring process of evolution of human endeavor; but we are painfully aware that some things called "progress" are mere phantasies, and especially is this true in the matter of the application of remedies, or therapeutics, in treatment of disease.

Perhaps the greatest advances today in the practice of medicine are that we are daily learning to depend more on the *vis medicatrix naturae*, which was a fixed principle with Hippocrates; that is to say, "we should be very careful to do good, but very careful to do no harm."

Doubtless this conviction of the father of medicine that induced him to give so much prominence to his "Ptisan," which, as we have said, was merely barley water (capable of doing "no harm if it did no good." To the writer's mind, we should all profit and our patients be more comfortable and probably revive and recover about as well as they do, if we would hark back to barley water and sage tea in the management of many diseases.

As an example of the effectiveness of simple measures, I would like to cite a very recent and competent author on venereal diseases, whose treatment of gonorrhea is to discard drugs almost entirely, put the patient to bed, have him (or her) to drink many pints of water each day, to abstain from eating highly seasoned food and from stimulating drinks; take a little sodium bicarbonate frequently in water; immerse the penis in water



at 12 degrees for half hour at a time every few hours; take an occasional saline, and have the grace of patience for about six weeks. No injections are used in the acute stage, but later a solution of protargol once or twice a day. According to this scribe's belief, this method of treatment of one of the most troublesome complaints to which poor erring mortal man (and sometimes woman) is subject in his mad career of attempting to gratify a most natural instinct is the first substantial advance in its management there has been made for over 150 years. In this ramble through old musty books we noted one on "Gonorrhoea," written in about 1794, and compared that ancient author's treatment to that of the present, or we should say the very recent past, for with the new light now on the subject, the present and future is full of radical change in treatment; and we found that he recommended balsam copiba, eubeb, etc., and the injections of various and sundry astringents and silver salts, principally the nitrate; and the ordinary practitioner of a few days ago used these same agencies. The truth in the premises is (although we have discovered with the microscope the gonococci) that the natural tendency of gonorrhoea is to recovery; runs its course like pneumonia and typhoid fever and a host of other diseases and the wise doctor would often show better wisdom by adhering to the teachings of the ancient Hypocrates, rather than undertake the very dubious practice of "curing" the disease with drugs. The real progress we have made in medicine within the past three or four decades is lodged more in methods of diagnosis than in prognosis or in treatment. The one great exception to this statement is that, having discovered the germ or microbe or cocci which causes the disease, in few instances, serums have been produced, which are curative absolutely or are preventive.

As to the large number of ailments, while we know more about causes or make more positive diagnoses, yet when it comes to the use of drugs, we are found using the very same things which the fathers have been familiar with for generations.

We have made substantial progress in disease prevention, especially in malarial and

yellow fevers, for we have learned to destroy the mosquitoes—the hosts of those maladies. The victories of medicine are in the final analysis to be obtained in preventing, rather than in curing disease.

The greatest advances in surgery are due to the study of anatomy and to anesthetics. Yet Hypocrates performed remarkable feats in surgery without either. He probably never saw a skeleton in his life, for Galen four hundred years later traveled hundreds of miles to see a skeleton, and was so enraptured at the wonderful spectacle that he advised his contemporaries to make the trip at any cost.

This fact increases our amazement at the large range of knowledge of Hypocrates and at his scientific management of surgical cases. We are tempted to exclaim, as did the critics of the Man of ancient Galilee, "Whence hath this man this knowledge, having never learned?" that is, having never had the advantages of learning or the acquisition of information as contained in books. The secret of his insight into the human body and its diseases was **THOUGHT**. Too many of us read books too much and **THINK** too little. This is true also in politics and religion, as well as in medicine.

The beacon lights in medicine and surgery have invariably been those who **thought out things**. Hypocrates, Galen, Harvey, Sydenham, Drake, Ambrose Pare, Gross, McDowell, Simpson, Jenner, and others of their kind tied not themselves to existing theories and dogmas as facts unchangeable, like the laws of the Medes and Persians, but, weighing them with due consideration, passed on to fields yet green and untrammelled, and in nature's own domain, prompted maybe (why deny it?) and guided by some unseen but omnipotent hand, employed their God-given minds, and unfolded the hidden sources of disease and its rational management.

Books indeed we have, ancient and modern, for to their making there indeed is no end, and indispensable as they confessedly are, yet men to succeed must employ mind and do a great deal of earnest, hard thinking apart from any bias by what this and that "author" may have said, for he must have been of necessity dealing in generalities,

while every case of disease, every patient, is in a large measure a law unto itself. This means that the doctor worthy of the name must, after giving proper credence to others, have originality and get his most needful lessons at the bedside of the patient.

### ACHYLIA GASTRICA.\*

By Otis S. Warr, M. D.,  
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It is now a little more than a quarter of a century since Einhorn first used the term, "achylia gastrica," to define what he recognized as a clinical entity. For several years after his original paper, published in 1892, the condition engaged very little attention, probably for the reason that gastric analyses were seldom done except by the so-called "stomach specialists." In recent years, since gastric analysis has been carried out almost as a routine procedure in gastro-intestinal cases, achylia has been found to occur far more frequently than was suspected. And the surprising thing is that the condition is still looked upon by a great many as a distinct clinical entity. In the writer's opinion achylia is no more of an entity than is hyperchlohydria or anemia; it is merely a symptom and not a disease.

On account of the scarcity of statistical data on the subject it is difficult to determine the relative frequency of this condition. In a study of between six and seven hundred gastro-intestinal cases of all kinds in the Brooklyn dispensary, Albert Andreson found 10 per cent to have achylia. He estimates, however, that if properly examined, probably not more than 5 per cent of all gastric disturbances would be found to be achylia. Among 2,500 gastro-intestinal cases examined by Lockwood, 6 per cent showed achylia. Since gastro analysis will never be carried out as a routine except where there are def-

inite gastro-intestinal symptoms, we will likely always underestimate rather than overestimate its frequency.

**Etiology.**—In regard to the etiology of achylia there has been considerable discussion. Einhorn first adopted the term to be applied to those cases which resulted from a simple functional depression of the gastric secretion without evidence of organic disease. Today we recognize that it may be either functional or organic. Thus all cases of achylia, as pointed out by Gross and Held, are readily divided into three groups: (1) Cases in which there is demonstrable pathological change in the gastric mucous membrane; (2) cases which occur in connection with various constitutional diseases, like nephritis, diabetes, pernicious anemia, etc.; and (3) the purely functional type, in which no pathology can be discovered.

The purely functional type necessarily constitutes a very small group. In fact in those cases which are apparently of the simple functional type organic disease cannot always be excluded, and it is well in every instance to search most carefully for some organic disease within or without the stomach.

Since in the last analysis every case of achylia is the result of disturbed gastric secretion, whether this disturbance be due to some definite pathology or not, let us review briefly the normal mechanism of the secretion of gastric juice. The essentials for a normal gastric secretion are (1) normal gastric glands, (2) a normal nerve supply, and (3) normal blood supply. Then every case of achylia must result from some abnormality of one or more of these factors. During a meal there is a continuous flow of gastric juice. In this flow there are several factors involved: First, the psychical secretion or the secretion which is brought about reflexly through the sight, smell or taste of food; second, the secretion which is stimulated by certain so-called secretagogues contained in the food; and third, the flow which is the result of stimulation of the gastric glands by the secretin, a substance formed by the action of the products of digestion upon the mucous membrane of the pylorus.

Now hydrochloric acid, which is always ab-

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



sent in achylia gastrica, is formed from the chlorides of the blood, by the action of the partial cells of the gastric tubules. In proof of this, if we eliminate chlorides from the diet, acid will soon disappear from the gastric juice. Like all enzymes, pepsin occurs in the form of a zymogen, and as such is found in the gastric cells. This is converted into pepsin by the action of the hydrochloric acid. Furthermore, pepsin is inert except in the presence of an acid. Therefore, clinically, it makes little, if any, difference, whether pepsin is present or not if hydrochloric acid be absent.

Then, from the standpoint of the physiology of the stomach, let us see under what condition hydrochloric acid might disappear from the gastric juice. In the first place, any disease of the gastric glands would result in an abnormal gastric secretion. But in this, like all other glands, we cannot estimate the degree of anatomical change by the amount of functional disturbance. There may be profound secretory disturbance with but slight anatomical change; on the other hand, there may be marked pathological changes with apparently slight functional disturbance. The majority of writers concur with Elsner that "in the great majority of cases, achylia is occasioned by an organic disease of the glands of the stomach due to a chronic inflammatory process of a catarrhal nature which has resulted in complete destruction of the secreting apparatus, and in atrophy of the mucous membrane." Then any irritant that will produce a chronic catarrhal gastritis may, if allowed to act over a sufficient length of time, be the cause of achylia. Among the more common may be mentioned alcohol, tobacco, improper food and improper eating. The condition may be infectious. Andreson observed that 89 per cent of his cases showed infections of the nose, mouth or throat. This does not prove, however, that achylia is the direct result of focal infection. There may be a destruction or atrophy of the gastric glands from cancer or syphilis. Any of the wasting diseases, such as tuberculosis or pellagra, may result in atrophy of the gastric mucosa. Arterio-sclerosis is not an infrequent predisposing cause. Again, achylia

may occur in connection with various other disturbances of the digestive apparatus. For instance, it has been observed in connection with chronic appendicitis and gall-bladder disease. Lockwood has called particular attention to the frequent association of achylia and gall-bladder disease. Contrary to the popular belief that gall-bladder diseases usually produce hyperacidity, he observed achylia as often as he did hyperchlohydria.

But when we have excluded as far as possible all organic disease, both intra and extra gastric, we still have a small group of cases to which we are unable to assign any definite cause. It is to this group that we refer when we speak of functional or idiopathic achylia. As to the cause of this type, our knowledge is still quite meager. We have good reason to believe it is due to some lack of balance between the vagus and sympathetic nerves. Either we have a vagus inhibition or an overstimulation of the sympathetic. Furthermore it has been shown that such a condition can result from disturbances in the endocrine organs. But the evidence is largely experimental and a discussion of the same here would take us too far afield. The condition is somewhat more common in females than in males. As to the age incidence, fully 70 per cent occur after the fourth decade. The fact that the condition occurs most frequently at that period in life when malignancy is most common, increases greatly its clinical importance. The idiopathic or functional achylia are encountered most often in young adults.

**Symptomatology.**—In discussing the symptomatology of achylia we will refer to the functional or idiopathic type only. If the condition is encountered in connection with some organic disease it is impossible to say which symptoms are the result of the achylia and which the primary disease. The condition may exist for months or years without giving rise to any definite symptoms. The majority of cases are discovered in a routine examination when it had not been suspected. There is no symptom complex on which the diagnosis can be made clinically, and it can only be recognized with certainty by an examination of the gastric contents. Furthermore, Rehfuess has shown that the old method



of gastric analysis is not reliable. By his method of fractional analysis he has shown that hydrochloric acid and pepsin may not appear till after the first hour. Thus an Ewald test meal recovered at the end of one hour might show a complete absence of hydrochloric acid and pepsin, whereas by using the Rehfuess fractional method both acid and pepsin may be found during the second hour.

When there is an absence of gastric juice, the digestive function may be vicariously carried on in the intestines. This is sometimes done perfectly well and the patient goes along for years apparently in good health. If, however, this vicarious digestion is not complete, intestinal symptoms begin to appear. Among these early symptoms, and perhaps the most frequent, is diarrhoea. This gastrogeneous diarrhoea probably in most cases is due to an insufficient pancreatic secretion. But that there are exceptions has been proven by Thomas R. Brown, who found that in some cases of achylia the diastase was present in the stools in normal amounts. Then if the pancreatic secretion occurs in normal amounts in some cases of achylia, there must be some other means of stimulating the pancreas than through the secretin formed by the action of hydrochloric acid on the duodenal mucous membrane as claimed by Starling. The diarrhoea then in some cases must be due to an associated enteritis, due to irritation from the food, which is hurried into the intestines improperly chymified. The type of diarrhoea is often suggestive. There are several large loose stools in the early morning with little or no trouble after noon. In other cases, almost immediately after taking food of any kind, there is a large, loose evacuation, preceded by considerable rumbling. The stools are usually very offensive, and contain considerable mucus and undigested meat fibers.

Gastric symptoms are strangely absent in many cases of achylia. Except in event of complications these patients may go along for years without being aware that any trouble exists. On the other hand, not a few of these patients complain of a sense of fullness, burning and distress after meals, much the same as complained of in a case of hyperacidity. The pain may come on two or three hours

after eating, as in duodenal ulcer. The deception is the more complete when we find that these symptoms are relieved by taking food or alkalies. These symptoms have no relation to the diarrhoea and may occur in patients whose bowels are regular or constipated. Loss of appetite, more or less complete, occurs in many cases. This fact, together with the knowledge that the taking of food gives rise to more or less distress, causes the patient to abstain from eating, with the result that there is a great loss of weight and muscular strength. Vomiting has been observed in a few cases, but is usually due to some complication. The emptying time of the stomach is variable, as shown by the x-ray. Jones, of Portland, in a recent study found that in the asthenic individual with gastroparesis the stomach emptied slowly, while in the broad individual in which the stomach was high, there was a rapid emptying.

**Prognosis.**—In the functional type the prognosis as to cure is unfavorable, but as to life is good. If organic disease is present, the prognosis is that of the primary disease. Symptomatic relief can be effected in a large per cent of cases, but a complete cure is rarely possible.

**Treatment.**—In discussing the treatment we shall again refer only to the idiopathic or functional type. In a large number of these cases there is an element of neurosis which must be analyzed and corrected if possible. Frequently it will be found that these patients have lost weight because they have been afraid to eat. In this type of case there is nothing so important as to gain the patient's confidence and assure him that his condition is not serious. After all, what most patients are looking for is symptomatic relief, and this we can promise them with a fair degree of certainty. In the severer cases it is well to insist on a period of rest in bed, with a nurse in charge. In this way only can we be sure of an absolute control of the diet. In general, our treatment should be directed toward the individual, and not his stomach. Schmidt very aptly covers the ground when he says, "Treat your achylia less as stomach specialists and more as general practition-

ers." In fact, in the opinion of the writer, there is no longer any place in the field of medicine for the so-called "stomach specialist." Not only in the management but in the diagnosis of gastro-intestinal diseases we must be able to see the patient as a whole and not merely as a stomach case.

If there is much intestinal disturbance and a large amount of connective tissue fibers in the stool, as is true in most cases, it is best to restrict meats and limit proteins of all kinds to a minimum. If, on the other hand, the condition is discovered accidentally and the patient is suffering no apparent inconvenience, there is no occasion to interfere with the diet. Again, if the individual is asthenic, is under-nourished and anemic, as is frequently the case, rest in bed and forced feeding should be insisted upon. In other words, we should individualize in the management of this condition.

The medical treatment in most cases can be summed up in two words: Hydrochloric acid and pepsin. I prefer to give thirty to forty drops of diluted hydrochloric acid and about two drams of essence of pepsin diluted in a full glass of water and instruct the patient to sip this slowly after meals. In anemia is present, iron in some form should be given.

In conclusion, the following point should be emphasized:

1. Achylia gastrica should not be regarded as a clinical entity, but merely as a symptom.
2. Cases of achylia occurring in individuals past middle life should be regarded with suspicion and repeated search be made for some organic cause, lest we overlook a beginning malignancy.
3. No case should be regarded as a true achylia based on the result of an Ewald test meal. If this test reveals an achylia, a fractional analysis should be done and carried over a period of at least two hours.
4. If in the course of a routine examination, we discover an achylia in an individual who is suffering no particular digestive disturbance, we should be careful not to attach too much importance to this finding, let us cause this patient to imagine he has some serious

disease and thus become a confirmed neurasthenic.

5. In the management of achylia, we should have no routine plan, but should individualize in every case.

#### DISCUSSION.

Dr. William Krauss, Memphis: It is about high time that the general practitioner should begin to recognize the value of fractional analysis of stomach contents. I am sure everybody who has attempted this method will consider the information he has obtained from the use of the old large tube and single aspiration is valueless in the determination of the possibilities of acid secretion. By the fractional methods we are able not only to determine the highest point of acidity, but the period at which the highest point of acidity occurs, which is of considerable value. I do not think anyone nowadays who is well informed can determine an achylia gastrica by the mere absence of hydrochloric acid in fifty or sixty minutes after the meal has been taken.

I think Dr. Warr's paper is a very timely one, and it is about time for the old stomach tube and a single aspiration to be thrown into the discard.

Dr. Frank A. Jones, Memphis: When Einhorn came out with his original article and coined the words achylia gastrica, various synonyms came into use. After Einhorn came Van Valsalva, with his myasthenia gastrica. Then Nebbitt introduced the term atonica gastrica, and later Hemmeter came out with his myotonic theory of achylia gastrica, and it became quite a fad, as you all know. A great many papers were read on achylia gastrica; stomach analyses were made, fractional methods were introduced, all the different percentages worked out, the enzymes, and so on. From that time you recall that in almost every nook and corner men were specializing in diseases of the stomach, and the stomach pump was quite generally in use.

You see before you today a victim of the stomach pump and of stomach tubes. I traveled from New York to San Francisco in an effort to get relief from stomach trouble. I was not willing to let Einhorn introduce his bucket into my stomach, as well as the duodenal tube.

Achylia gastrica is really a nonsensical term. It means nothing. It does not mean any more than to say that a man has dropsy when he has cardiorenal disease. It bears about the same relation. It is merely symptomatic. There are cases in which there is no hydrochloric acid, and it was said that when a man had absence of hydrochloric acid he had cancer of the stomach, and if in addition you found the Boas bacillus, it was sure evidence that he had cancer of the stomach. I have seen a number of cases of achylia gastrica



that never did develop cancer of the stomach. You will find achylia gastrica more frequently in myasthenic, psychasthenic, high-strung, nervous women than in any other class of patients. Achylia gastrica bears about the same relation to these psychasthenic conditions that hysterical paralysis does; hysterical paraplegias, hysterical phobias, etc.

Walter Cannon, of Harvard University, has written a splendid article pertaining to achylia gastrica from a psychic or psycho-analytic viewpoint. He has written the most masterful article that it has been my pleasure to read, which is based largely on experimental physiology and animal experimentation. He can take a cat and so frighten it with the presence of a dog that the cat will spit at the dog. He will take that cat, kill it, and later demonstrated not only a total absence of hydrochloric acid, but of the enzymes after fright. He will demonstrate sudden emotion, fear, fright, anger, all such things, showing that it is conducive to achylia gastrica.

I quite agree with the essayist that achylia gastrica is not a disease entity. I am reminded here of the story of the old lady who was told about the giraffe. She looked the animal over and over, and said, "There is no such animal." (Laughter.) And there is no such thing as a disease entity in achylia gastrica; and the prognosis is not so bad as some practitioners would have you believe.

I have had some experience with achylia gastrica, and the sovereign remedy is water—hot water before meals in larged raughts; hot water in the bathtub, morning and night, soaking these patients for half an hour, and having them drink a gallon a day of hot water. Hot water tones the blood pressure. I want to ask you this question: Did you ever see a case of achylia gastrica in your life with a blood pressure more more than 90? I have seen the blood pressure in achylia gastrica of not more than 80, and in one case it was 72. You will find it in the majority of instances in these psychasthenic states. You will find in the majority of cases of achylia gastrica that there is a profound neurosis.

Dr. Jack Witherspoon, Nashville: I remember the time when achylia gastrica was not taught us as a disease, but as a symptom, and we have long regarded achylia gastrica as a symptom. We have generally found the stomach free of pepsin in these conditions. We have functional disturbances below the stomach that produce changes in the secretion, or we have organic disturbances below the stomach. I refer particularly to appendicitis, gall-bladder disease, constipation, diseases of those types, which were shown by some of the earlier fractional stomach contents to be due to hyperchlorhydria rather than to hypochlorhydria. Dr. Warr said that in gall-bladder infections it is not uncommon to have an in-

crease in the gastric contents, or an increase of free hydrochloric acid in the gastric contents in gall-bladder disease. Our experience on that basis has been that constipation or a chronic appendix, or a chronic gall-bladder inflammation does not cause an achylic condition in the stomach contents, but rather a hyperchlorhydria.

One interesting point in the differentiation of cases in people past fifty years of age, who have had a gastric examination and are found to have an absence of free hydrochloric acid, is to separate the pernicious anemia in certain stages from cancer of the stomach. They both have a skin color that is remarkable in its paleness, a yellow or cachectic look, and at times gastric cancer cannot be palpated as a tumor. These patients have absence of free hydrochloric acid in the stomach contents; they have anemia with a low red count with no leukocytosis. With cancer we are able at times to get blood in the stomach contents; that you won't find in a functional disturbance, and it is achylia or some kind of pernicious anemia.

Another interesting point about achylia gastrica is the fact that these patients have no pylorospasm; they have no contraction at the distal end of the stomach, and foodstuff runs through rapidly. That probably accounts for the large number of diarrhoeas that we see; it accounts for the intestinal fermentation and resultant intestinal diarrhoeas we see with this disease.

I have been very much interested in intestinal parasites recently, but I have not made any fractional studies of the stomach contents in these intestinal parasite diarrhoeas.

I endorse what Dr. Warr has said with reference to fractional analysis of the stomach contents. A test meal at forty-five minutes or one hour is not one-fifth the value of the three or four doses taken through a small stomach tube, and the psychic disturbance caused to the patient is very little, and after the original excitement has passed away, it is easy to make a study of the stomach contents, and what is considered a true achylia gastrica may prove to be a hypochlorhydria.

Dr. Warr (closing): One important point in connection with achylia gastrica is the differentiation between the functional and organic diseases. I believe when we learn more about the physiology of the stomach and the physiology of the internal secretions, we will be able to eliminate more and more of the cases that we classify now as simple functional achylia, and perhaps in the end will be able to account for all cases. But at present, given a patient past middle life, when we find complete achylia, one thing we must watch most carefully for is a beginning malignancy. It is in these cases that the x-ray comes to our rescue better than any other method of diagnosis.



## A PRACTICAL DEMONSTRATION OF THE VESTIBULAR TESTS FROM AN OTOLOGIST'S STANDPOINT.\*

By Louis Levy, M. D.,  
Memphis.

Mr. Chairman and Fellow Members: It would not be wise to demonstrate without first going a little into the anatomy of the labyrinth—not the labyrinth, so much as the pathways. I am passing around two pictures. You will see from one set of canals the blue line, from the other the red line, which represents pathways from the horizontal and vertical canals.

From each set of canals there are separate fibers, the horizontal fibers passing up into the brain into the medulla, separating at the Deiter's nucleus, one branch passing over into the posterior longitudinal bundle and distributed to the third and sixth nuclei, giving us our horizontal nystagmus. The other, known as the vertigo set, passes through the inferior cerebellar peduncle into the cerebellum. The same thing happens with the fibers from the vertical canals, but the separation does not take place in Deiter's nucleus—it goes a little farther, passing into the pons, where in a group of nuclei this set divides, one branch passing over into the posterior longitudinal bundle, and is distributed to third and fourth nuclei, giving us our rotary nystagmus. The vertigo set here pass through the middle cerebellar peduncle into the cerebellum. Both sets of vertigo fibers pass through the cerebellar nuclei and then together through the superior cerebellar peduncle to the center of the temporal lobe on the opposite side. To understand the test, we must understand this anatomy.

There are certain points to remember: First, that your horizontal canals and vertical canals are separate; second, reactions from these canals pass through different pathways and by these reactions we can tell whether the trouble

is in the pons, Deiter's nucleus, cerebellum, etc.

This is a new subject, but to every otologist it should be made a part of his work. The internist seeks the opinion of the ophthalmologist. Why not, then, the opinion of the otologist on a patient with vertigo? Who, in all of medicine, is able to give that opinion? It is the ear man. Why? Because, regardless of what is causing the vertigo, let me make this clear: it is affecting the labyrinth, the nerve pathways, or the brain centers of the eighth nerve; you cannot have a true vertigo without its affection in that capacity. I do not mean to say that the diseased kidneys do not cause the vertigo; but how do they cause the vertigo? Through the toxemia reaching through the blood some portion of the eighth nerve or its brain center. The time will come, I hope, when a patient with vertigo will be referred to the otologist for his opinion, the same as a patient is referred to the ophthalmologist for his opinion of the eye grounds in certain systemic diseases.

At the demonstration you will see the patients turned. We will turn them first in the horizontal position, and again I call your attention to anatomy. Remember that the horizontal canals are so placed in the head that they are an angle of thirty degrees downward; for this reason the head is placed thirty degrees forward, to give us the horizontal position. To reach the vertical canals we place the head ninety degrees back, which would make it sixty degrees, taking into consideration the thirty degrees forward, or we may place them ninety degrees forward, making the head really one hundred and twenty degrees forward. In making the test, it is usual to first test out the horizontal canals by placing the patient's head thirty degrees forward and then have the patient look at some distant object. After patient has fixed his eyes on a certain object, our first thought is of spontaneous nystagmus. This is very important, as well as the type of nystagmus, should any be present. In the cases used for demonstrating you will notice the ocular nystagmus, due to poor vision. These cases I especially asked for in order to demonstrate the change that takes place in a vestibular nystagmus.

\* Read before the Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association, April, 1919.

Remember that the nystagmus of our ear patients is composed of a short component and a long component, the short component being your ear component, the long component being a cerebral reflex. When the nystagmus branch of the horizontal canal is stimulated, the stimuli pass through the nuclei of the third and sixth nerves, causing the eye to jerk in the direction of the turning; now the cerebrum, knowing the eye has been pulled in one direction, sends out another stimulus which, being stronger, over-corrects the ear pull, and we see our nystagmus completed. We pay no attention to the ear work, to the long pull; it is the short pull we notice, no matter what direction it may take.

In these tests the patient is told to close his eyes and when reopened, to look again at the distant object. The patient is now turned ten times in twenty seconds, after which he opens his eyes and the nystagmus is noted and timed. The test is first made by turning to the right and then to the left. The above test being made on the horizontal nystagmus fibers, we now test our patient for vertigo. The vertigo can be timed by turning the patient ten times in ten seconds and having him state the way he feels he is moving until he feels he has absolutely stopped. This is the subjective test. The better method, however, is in the pass-pointing, which has just been shown you, by turning the patient ten times and with his eyes blind-folded, for him to touch your finger, raising the arm above his shoulder and then retouching same. Remember here, too, before turning your patient to test him out for spontaneous pass-pointing.

The above tests were only made with patient's canals in horizontal position, but by reversing position of head, test can be made on the vertical canals, but for the lack of time am unable to take you through all this.

The last test now made is the falling test, in which patient's head is placed one hundred and twenty degrees forward and the vertical canals tested easily in this manner by turning patient five times in ten seconds and then asking patient to straighten up in his chair. You will notice the patient falls to the side of turning, due to the vertigo caused, making him

think he was going over to the opposite direction.

In these tests there are several points I wish to impress upon you, and they are, that the ear pull, pass-pointing, and falling are always in the direction of the lymph flow, while the fast component of nystagmus and the vertigo are always in the opposite direction.

The turning tests which I have just shown are very simple, which all of you should know. It gives you many answers right off the reel. I don't say to you that this, however, finishes a patient's test. I would want to take each ear individually in pathological cases. Here the douching test is by all means the most perfect test. It is done with cold or hot water, 68 or 112 degrees F. It is not wise to douche an ear that has a dry perforation, or chronic suppuration. Patients stand the cold douching better than the hot, and for that reason the cold water is the most commonly used. Remember with your cold water test the reactions are always, with one exception, to the side of head douched, while with hot water your reactions are to the opposite side. Again, in douching with your head forward, we first have our vertical canals stimulated and therefore produce a rotary nystagmus. Putting the head ninety degrees back will then change the same into a horizontal nystagmus. Suppose you have one dead ear, and you want to be sure about it—douching immediately tells which ear is dead.

Another point that is well to know in these tests is that in turning to the right two-thirds of the stimulation comes from the left ear. In turning to the left, two-thirds of the stimulation comes from the right ear. Here again your anatomy comes in, remembering that the little hairs on the crista are so placed that on one side of the pyramid there are twice as many as on the other; therefore, if the normal nystagmus is twenty-four seconds, which we consider about normal, and you get a nystagmus sixteen seconds from one side and eight from the other, and everything else being true, it immediately makes you suspect one side is off. It is always best to first turn your case, if possible, for, as I have stated, oftentimes the turning tells its own story, and nothing further is necessary.

In this demonstration, which is the same as used in testing aviators, you will note that it was not our purpose to diagnose cases, but to be sure the men we were taking in were normal, with respect not only to their equilibrium, but, as well, their brain pathways. In other words, if a man had vertigo in his machine and did not know how to correct it by the stick he would fall on one side. We have had such cases. Another point was in men going stale in their flying. I have often noticed that one of the first signs of staleness in fliers was an increased irritation in the labyrinth; they complained of a greater amount of vertigo, easily nauseated, and oftentimes vomiting.

The more a man turns the more he leans to compensate for the turning. But they never lose their dizziness completely, and never, if normal, lose their nystagmus.

Some time ago an article came out claiming the nystagmus, too, was gradually diminished, but I could not agree to this, and believe I made a fairly good negative to that effect, for in testing out 541 fliers found the nystagmus was still normal, but that in the fliers of 160 hours or more experience they had learned to judge their vertigo, and correct accordingly.

#### DISCUSSION.

Dr. Potter, Knoxville: I would like to ask Dr. Levy in what particular respect does his demonstration differ from the original Barany demonstration, or is there anything new he has to offer other than what Barany offers?

Dr. J. B. Blue, Memphis: Mr. Chairman, I do not know much about it. I wish to emphasize the position of the head. Ruttin and Bondy and those men in Vienna did not pull the head over—is that right?—like Lewis and Fisher, and all of them do over here, which, of course, is work to the credit of the American otologists, because the Vienna men did not take into account the position of the semi-circular canal and make them put their head at thirty degrees, and of course that kept them from really getting the proper reactions that the American otologists get. I enjoyed Dr. Levy's demonstration very much, and learned a good deal from it. I thank him very much.

Dr. M. M. Cullom, Nashville: Mr. Chairman, I was talking with Dr. Neumann one day, and he told me how this nystagmus test got started. He said that he and Dr. Alexander and Dr. Barany were assistants to Dr. Politzer, and Dr. Politzer had a private patient, a Russian prince, I think he said he was. He had very large and

luminous eyes. He was irrigating his ear under Politzer's direction, and noticed this nystagmus, on account of the prominence of the eyes, and called Alexander's and Barany's attention to it. They decided they would come back the next day and try him again, so they all had lunch together. Barany did not drink. He got through with his lunch and hurried off, and Politzer and Alexander sat over their cups for a while. When they got back to the clinic, Barany had the thing figured out. He said that this was where he lost the chance to have originated the method.

I notice Dr. Levy counts the nystagmus from the short motion. That is contrary to the Vienna school, too; they count from the long motion—that is, they count the nystagmus in the opposite direction from the turning.

While I was there with Ruttin he was constantly called in to the general surgical clinic on questions of cerebral tumors, intercranial tumors, and he localized quite a number of intercranial tumors while I was there, the spot exactly where they were found at the operation. I might add that it did not do the patient much good. There was no case of recovery occurred while I was there on any operation for an intercranial tumor.

But this certainly has been a very delightful demonstration the doctor has given us this morning. We have not had any case reports of this kind; but I had one case of involvement of the labyrinth. A man came to me and told me about his terrific headaches. He thought they were due to his eyes, and said he wanted a pair of glasses. While we were talking about the matter, he made the remark that he had a running ear, that he had had since he was five years old, due to scarlet fever. He said: "I have always been in the habit of cleansing that ear with a cotton swab, and a few weeks ago I noticed, when I tried to clean my ear, it made me very dizzy." I forgot all about his eyes, then, and I made compression on the canal, and it produced as good a nystagmus as you ever saw. I took him to the hospital, did a radical mastoid on him, and found a fistula in the canal. He was well and back at work in ten days from the operation, and never has had any further trouble. His fistula symptom disappeared in a short time.

Dr. R. C. Lynch, New Orleans: Mr. Chairman, the demonstration follows along the rules as laid down by law. I think this whole proposition now has gotten to be one of almost mathematical accuracy, and therein lies the greatest advantage of the tests.

In response to the question of the doctor about whether we have anything new to offer, it differs so very much from what Barany and the Vienna school offers us that it now practically has been transferred from the Teutonic school to the



American. It is undoubtedly the whole question of cerebral localization, as is interpreted through the test of the turning chair. The credit belongs to Fisher and Jones and Randall, of Philadelphia, the Philadelphia School of Neurology, in contradistinction to the work of Barany. Barany undoubtedly was a pioneer, but the greatest advance, and the greatest fact which have been given to medicine in the modern practice is the fact of the differentiation between the pathways that come from the horizontal semicircular canal, as in contradistinction to those which come from the superior or vertical semicircular canals. In fact, the definition of the nerves that come or lead from the horizontal semicircular canal, taking an absolutely distinct and separate pathway than those that lead from the vertical semicircular canal, is the only real and great reason why we can use this test for the definition or the localization of cerebral pathology. That, I believe, is the keynote of the advance that has been made in this department of otological work, and it has gone so far that the otologist cannot only presume at the present day to dictate to the neurologist as to localization of the cerebral lesion, but he can also dictate to him in such a matter of refinement as to put his finger absolutely on the spot of the disease, which up to this time the neurologist or the internist or nobody else except the otologist has been able to do. Therefore the ear tests, as have been outlined by Dr. Levy, demonstrate the mathematical accuracy of the whole proposition. It is the patient must do, must react, in only one way; he must have his nystagmus in the proper pathway when he is turned in that direction, and if he doesn't have it, or if he has anything else but the right nystagmus, there is, then something wrong with the individual. Then it becomes a matter of deduction, to place your finger on the spot that is out of order. In other words, if he doesn't turn to the right, if he doesn't have his nystagmus when turned to the right, then something is wrong with the man, not the chair or the test, but with the individual. If he doesn't pass-point with one hand in the same direction, if one hand doesn't pass-point and the other does, and if another pass-points when it should not pass-point, something is wrong with the man, not with the chair, not with the test, and not with you, but with your patient. And it is just that mathematical test, that accurate and scientific test, is the greatest advantage and the greatest step forward that otology has been able to give to medicine. It is one of the most beautiful studies of the interior otology, and that is the term that should be applied to it, that can be imagined, and is one of the greatest steps forward in the advance of cerebellar localization which has been, up to this time, only scratched upon the surface, apparently. (Applause.)

Dr. Levy (closing the discussion): Dr. Potter, I believe, asked in what way this test differed from the original Barany method, and Dr. Lynch has pretty well covered it—that is, in the fact that we are able to demonstrate that the different reactions brought out pass through different pathways. This is the reason I brought up the anatomy first, to show you that today we know that the horizontal pathways are absolutely and distinctly separate from the vertical pathways; that the horizontal and vertical canals has two sets of fibers, instead of the original one. We have not been able lately to get much from the German literature, or from Vienna, but we learn that Barany stated what we call pass-pointing is nothing more than a muscular nystagmus. We do not call our pass-pointing nystagmus, but the subjective sign of vertigo. This is also the best way to measure our vertigo; however, we may also measure it by turning a patient and having him tell us what happens. If the patient is turned to the right at first the fluid in the canal seems to lag behind, but as the patient continues to turn the movement of the fluid becomes faster, and if the patient is turned long enough the fluid will in time move as fast as the patient is turned, at which time the patient will have no sensation of turning and will say, "I have stopped." Now stop the chair and the patient will from his vertigo say he is turning to the left, which, as you know, is in the opposite direction to the flow of the fluid, which is correct. As the patient continues to tell you the way he feels while he is turning this is timed, and the length of time is counted from the time you stop the chair until patient states he is not moving. Toward the end of this test it is oftentimes hard for the patient to definitely state his feeling. For that reason the subjective sign of vertigo is not as good as the objective. In speaking of the nystagmus the misnomer that has heretofore worried us in regard to same was the fact that the fast component was the one watched and used as a guide; but we now know that it is the short component or the ear pull that we are to watch for, as the fast component is nothing more than the reflex cerebral pull.

There is still a great deal to this work, and those who have worked on it have only touched the surface. What we are asking each one of you is to realize how valuable this work is to the general practitioner when the reactions are properly charted and diagnosed by an ear man. Is it not most gratifying to be able to take this patient with vertigo and give your internist a definite report so that he is better able to take care of the patient? These are the things which are going to mean a great deal to you, especially when your physicians have been educated to the point where they will want patients tested for vertigo, the same as when you suspect syphilis

you would want a Wasserman, and naturally they will turn to an ear man for this assistance.

This demonstration would not be complete unless I returned thanks to Wax Woche & Co., of Cincinnati, for their kindness in sending the chair used for same.

The Chairman: Dr. Levy had the chair sent here for the demonstration. We are also under obligation to Dr. Crawford, who has the eye work at the Tennessee School for the Blind, and who was kind enough to have patients here for this demonstration.

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### PRESENT STATUS OF THE WASSERMANN BLOOD TEST.

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By W. Frank Glenn, M. D.,  
Nashville.

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After fifteen years' use of the Wassermann blood test, it behooves us to inquire to what extent it has answered its intended purpose. When its use was first begun I was in the habit of regarding it as absolutely correct in ninety per cent of all cases; but as time has gone on my confidence in its efficacy has been gradually waning. This has been due to so many discrepancies in the reports made.

It has frequently occurred that one bacteriologist would report a positive reaction, while a different one who made the test on the same blood at the same time, would report a negative. In other instances when the patient showed clinical symptoms of undoubted syphilis, the Wassermann test would be reported negative. Again, it would be reported positive in persons who could no more have syphilis than an angel in heaven.

One case I recall in a young man of thirty years, who was in vigorous health and had never had a symptom of syphilis in his life. Yet he wanted his blood tested. So, to satisfy him, I had it done, and the report returned was XX positive. I gave him two intravenous injections of novarsenobenzol ten days apart. Two months later I had the blood again tested by the same bacteriologist, and the report was XXX positive. In other words, it was XX positive before treatment, and XXX positive after treatment. That appeared so absurd that I immediately sent a specimen of the same blood to a professor of bacteriology in a well known

university, and he promptly reported it negative.

This, I find, has been the experience of a great many of my confreres. Every year results have tended to weaken my confidence in the validity of the Wassermann test. I fear that these differences are due in some degree to the fact that insufficient care is present in making the test. I am afraid it has become a routine practice, carried on too quickly and without the original care. Commercialism has taken such deep root in our profession in recent years that I fear money making looms up largely as a factor. Yet, eliminating errors from these sources, I can truthfully say that the Wassermann test does not come up to the requirements, and will not do to rely upon whether to demonstrate the presence or the absence of syphilis. I wish to caution the profession not to rely too exclusively on this test.

The younger members of the profession usually say to the patient, "Your blood test is negative, therefore you cannot have syphilis." Or, on the other hand, "Your blood test is positive, which means undoubtedly you have syphilis." Neither of the statements can always be correct. I do not believe that the test is absolutely reliable in more than sixty per cent of all cases. Such being the case, we can only use the test as an aid to diagnosis, but not as a finality.

No one would more gladly welcome a reliable blood test or a certain and sure cure for syphilis than myself, but the Wassermann is far from a certain test, and salvarsan very far from a cure.

A few years ago two competent physicians undertook to test the value of the Wasserman. They sent blood to various laboratories. Sometimes they got a strong positive report, also a negative on the same blood in different hands, the specimens being marked so as to convey the impression that they came from different subjects. Another most interesting case is that of a traveling man who had a test made in New York by a competent syphilologist and the report was positive. Very shortly afterwards he had the test made in Boston, and the report was negative. A few days later it was made in Philadelphia, and again report-



ed negative. In a few days, again in St. Louis, the test was made and reported positive. A very short time thereafter he had two tests made in Chicago—one was positive, the other negative. Such has been the experience of a great many, if not the majority, of American syphilographers; and every day tends to emphasize the utter folly and great menace to the future welfare of the human family in relying upon the Wassermann test. It brings us fully to realize the absolute truth of Shakespeare's expression, "All that glitters is not gold."

### SOME REMARKS ABOUT THE HEART.\*

By O. N. Bryan, M. D.,  
Nashville.

The following remarks shall be based on observations made at Camp Pike, Arkansas, and Camp Sherman, Ohio, while examining troops for cardio-vascular disorders. During my period of service at these camps, there were between 150,000 and 200,000 men passed through the examining station for mobilization and demobilization. While I did not examine this entire number of men, I did have the rare opportunity of examining all those that had, or were suspected of having, any deviation from normal.

The examining board was made up of about thirty-two medical officers<sup>4</sup> and one hundred enlisted men. When the men were examined for induction into the service they were given Forms 88 and 1010 and a finger print card. On demobilization they were put through the same kind of examination with Forms 88 and 135-5. The Form 88 is a card for each examiner to make notice of his findings, if anything abnormal is found. The Form 1010 is familiar to most of you because it is the form that was filled out by local boards and sent to the camp with the men when drafted. The Form 135-5 is used at the time of demobilization for noting the disability, if any, whether in line of duty and the per cent of disability given, where any exists, taking into consideration the man's occupation.

The order of examination is as follows:

1. Lungs.
2. Orthopedic examination.
3. Weight, height, and measurement of expansion.
4. Neuro-psychiatric examination.
5. Heart.
6. Dental examination.
7. Nose, throat and ears.
8. Eyes.
9. Vaccines given, typhoid and smallpox.
10. General examination, hernia, hemorrhoids, etc.
11. Genito-urinary examination.
12. Notation of scars.
13. Taking of finger prints.
14. Review and signing of papers.

This was the general routine of examination. There were some men in which additional examination was required; those up for promotion and for the Central Officers' Training School had to have blood pressure taken and urinalysis made; otherwise it was the same.

The heart examination was conducted by two officers as the men passed by. If anything was found that could not be called a normal heart, he was sent in a nearby room. In this room a more careful examination was made with the man in the recumbent posture.

The procedure governing the examination of the heart as specified by Special Regulations No. 65 are as follows:

(a) Location and determination of character of apex impulse.

(b) Auscultation of heart sounds over apex, lower sternum and second and third interspaces to the right and left of the sternum, noting accentuations of sounds and murmurs.

(c) Inspection of root of neck and upper thorax and percussion of the first interspace on each side of the manubrium for evidence of aneurism.

(d) Counting radial pulse, observation of its rhythm, and palpation of radial arteries for unusual thickenings or high tension.

(e) Exercise test; hopping one hundred times on one foot. At the close, count heart rate with stethoscope over apex, listening for murmurs and noting how long tachycardia and unusual dyspnea persists. After two

\* Read at meeting of Middle Tennessee Medical Association, at Columbia, May, 1919.



minutes neither should be marked. Examiners should use judgment and discretion in applying the exercise test to registrants who, in the preliminary examination, present evidence of incompetency of the heart. Registrants should not be placed in jeopardy, but at the same time the exercise test is an important factor in determining the condition of the heart.

I will first give a list of the conditions met during these examinations and then discuss some of them more in detail. There were as follows:

1. Tachycardias (N. C. A., thyroid, foci, etc.)
2. Functional murmurs.
3. Aortic insufficiency.
4. Aortic stenosis.
5. Mitral stenosis.
6. Mitral stenosis and insufficiency.
7. Mitral insufficiency.
8. Arrhythmias: Extra systole; sinus arrhythmia; persistent extra systole (auricular fibrillation); heart block, complete and incomplete; pulsus paradoxicus.
9. Paroxysmal tachycardia.
10. Situs inversus.
11. Combined lesions.
12. Displaced heart from fibroid lung, effusion, etc.
13. Congenital lesions.
14. Hypertrophy with hypertension.
15. Hypertrophy without hypertension.
16. Myocarditis.
17. Pericarditis.
18. Aortitis.
19. Bradycardia.
20. Cardio-respiratory murmurs.
21. Aneurysm.
22. Drop heart.
23. Musical murmurs.
24. Gas cases.

The object in examining these men was to place them in one of the four groups as follows:

Class A. Those fit for general military service.

Class B. Accepted for military service in the deferred remedial group.

Class C. Those with non-remedial troubles,

but who may be accepted for special or limited military service.

Class D. Unconditionally rejected.

**Tachycardia.**—This condition has been the most difficult to explain and classify satisfactorily. It was responsible for more rejections and limited service men than all the other conditions combined. The many etiological factors we had to take into consideration were as follows: 1, Congenital cases (N. C. A.); 2, vaccines (typhoid and smallpox); 3, focal infections; 4, nervousness; 5, exercises; 6, cold and food; 7, thyroid gland; 8, alcohol; 9, loss of sleep, fatigue and hunger; 10, gassed cases.

The most troublesome one of all tachycardias was the one I termed congenital. This is a condition known as neuro-circulatory asthenia, "effort syndrome," "irritable heart," "soldier's heart," or "D. A. H." (English). These cases have a defective physical development and give a history of more or less disability from earliest childhood and may attribute various illnesses as being responsible for it. According to Gittings and Bernard Smith, these cases are essentially and primarily lacking in ambition, courage, energy, aggressiveness and endurance. They never take the interest in life that other boys do; this is possibly due to the fact that they have not the endurance of other boys. Their muscle strength has been shown to be below the normal standard. They complain of dyspnoea on exertion; an early sense of general fatigue; cardiac palpitation; precordial pain, distress or tenderness and vertigo. The heart is not enlarged and, in fact, some men think it is smaller than the average. The pulse rate is usually from 130 to 180, and they do not respond to the exercise test as they should. I have seen them frequently unable to take the hundred hops, and if they did they were very dyspnoeic at the end, and it takes them much longer to get over it. The blood pressure usually is slightly elevated. The first sound of the heart is frequently rough and snapping, which makes it very suggestive of mitral stenosis. This roughness usually quickly disappears in the recumbent posture, while with mitral stenosis the roughness is usually more accentuated in the re-

cumbent posture. Most of these cases have thin chests and often you feel what you take to be a thrill. They usually have a soft systolic murmur at the apex and often a roughened systolic murmur in the pulmonary area. A cardio-respiratory murmur is often heard in these cases. There has been much written about the etiology of these cases in relation to focal infection. At several of the camps they were assigned to development battalions and given a most thorough examination in search for focal infection. After all focal infections were corrected, they were then put on graduated exercises, with the result that a very small per cent of the cases derived any benefit. This fact makes Lewis call the condition congenital.

**Hyperthyroidism.**—Many of the men examined from Pennsylvania, Ohio and Indiana had a tachycardia associated with an enlarged thyroid and tremor, and were classified as tachycardia, simple, associated with enlarged thyroid. It was not uncommon to see from fifty to seventy-five of these cases in one day. This type of case was seen at Camp Sherman, Ohio. At Camp Pike, Arkansas, there were very few of this type seen. While I could not say positively these were cases of thyrotoxicosis, still from the fact that there were tachycardia, tremor, enlarged gland, cyanosis and hypertrophy of the heart, this seemed to be the most plausible explanation.

#### **Functional Murmurs:**

1. Apex systolic.
2. Pulmonary systolic.
3. Cardio-respiratory.
4. Diastolic functional murmur.

From ten to twenty per cent of the men examined closely were found to have one or more functional murmurs. I have no tabulation on it, but I have watched our weekly reports and remember one week we examined 9,000 men, and there were 1,400 functional murmurs found. This gives a fair sample as to how common they were. These cases are all accepted for full military service, provided they are normal in other respects. Functional murmurs are so diagnosed when all physical findings are summed up. On inspection these cases, as a rule, do not have the marked heaving and diffuse apex beat and

the apex beat is not displaced as found in organic lesions. On palpation, one will often note there is something wrong with the rhythm of the heart, and there is frequently a tachycardia associated. I have often noticed that most of the true organic lesions are slower in rate, possibly under one hundred per minute, while the functional murmur, also known as hemic or accidental, is found in most anaemic, asthenic patients, but it is not always absent in the plethoric and normal individuals.

**Character, Time and Place of These Murmurs.**—Most of these murmurs are soft and low pitched, but often one is loud and high pitched. They are practically always systolic in time, occupying a part or the whole of systole, usually only a part. We found a few diastolic murmurs that we felt justified in calling functional because they were not associated with any history, hypertrophy, no increase in blood pressure or pulse pressure, would appear and disappear, and were heard most often in the recumbent posture. Still, it remains doubtful if these were not early aortic leaks. Functional murmurs are heard most often at or near the apex of the heart. Another functional murmur almost as common, some say more common than apex, is the pulmonary systolic murmur heard in the second left interspace near the sternum. Some are heard over the entire praeecordial area, depending on the pitch of the murmur. These are heard best and most often in the recumbent posture; often heard in this position and not in the erect position. Slight exercise almost always causes them to appear. As a rule, they are heard best at the end of a full inspiration. There is not hypertrophy and dilatation and no accentuations of the second sounds as a result of these murmurs. The reason I am laying stress on these murmurs is that I feel sure many men were kept out of service because these murmurs were interpreted as organic lesions and, on the other hand, many men have been refused life insurance because someone found a rather loud murmur. I feel that more attention should be paid to the differentiation of organic and functional murmurs.

**Aortic Insufficiency.**—This was the most



common organic lesion found during these examinations.

I was of the opinion, before I began this work, that about 95 per cent of aortic lesions were syphilitic and the other 5 per cent were rheumatic. This might hold true if you would take an average of all ages, but I doubt it. My observation in this work was on men chiefly between the ages of twenty-one and thirty-one. While I have not been able to check my observation by Wasserman reactions, I do believe this should be about reversed, and that we might say that rheumatism is responsible for the largest percentage of cases for this age. Practically every one of these cases gave a definite history of rheumatism. I always took pains to ask these men if the rheumatism had been sufficient to confine them to the bed, and usually it had been, for a period of weeks. This lesion has been responsible for most of the large hearts that we have had to deal with. Next in importance in causing enlarged hearts was hyperthyroidism, and then came the mitral lesions.

**Measurements in the Aortic Cases.**—For the left border it ranged from eleven to fifteen cm., while the right border was from three to six cm. from the median line. Many aortic cases have been found during demobilization that have been in the service several months doing full military duty and have not had a sick day while in the service. They have never fallen out on the marches and have been through all the hardships that their comrades have endured. I can only account for this by saying that the diastolic murmurs were so soft at the time of entrance they were not heard. Now it is, possibly, heard because there has been an extra strain on the heart, causing more hypertrophy, which would cause a louder blowing murmur. In the well established aortic insufficiency there is a loud blowing diastolic murmur, heard best to the left of the sternum over the third and fourth interspaces, also on the right side to a lesser degree. This type of case is easy of diagnosis, but the one that is difficult is that one that is a very soft diastolic murmur and only heard on the left side of the sternum over the third or fourth interspace. Often

the cases with a split second sound were passed as normal. Some men look on this condition as forerunner of an aortic lesion. Some of these soft murmurs are audible in the recumbent posture and not in the erect. Some men claim they can often be detected by the naked ear when not by the stethoscope. A procedure that I have used and that has been of value has been to have the patient lean forward at an angle of about forty-five degrees. The murmur is accentuated and the heart slowed. This same procedure will cause a simple tachycardia often to slow up from twenty to thirty beats per minute. Blood pressure has been a valuable aid in diagnosing these cases. They have a high systolic, low diastolic and an increased pulse pressure and there is practically always a higher pressure in the leg than in the arm. The pistol shot sound over the femorals has been constantly present, while Duroziez sign has not been constant. The Flint murmur has been fairly constant with these cases. Aortitis has not been so common, probably on account of these mostly being rheumatic instead of syphilitic. All diastolic murmurs were rejected.

**Aortic Stenosis.**—This lesion was rarely encountered, and when it was, it was accompanied by aortic insufficiency and there was nothing peculiar noted in these cases. They had the characteristic thrill, plateau pulse, a high pitched systolic murmur over the second right interspace transmitted to the neck, and there was some change in the blood pressure.

**Mitral Stenosis.**—This lesion was more commonly encountered than the pure mitral insufficiency. It was practically always accompanied with a mitral insufficiency. These cases practically all gave histories of rheumatic fever, typhoid, diphtheria or scarlet fever. The murmur is presystolic in time and is often described as mid-diastolic and reaching its height of intensity just before systole. It is more of the crescendo type. It is harsh and high-pitched and immediately followed by a sharp snapping first sound. A distinct thrill is felt over a limited area at or near the apex. It is often associated with auricular fibrillation, which gives the peculiar



rhythm to the palpating hand. The murmur is heard over a limited area near the apex. The stethoscope should be placed lightly against the chest, otherwise the murmur will often be missed. The pulmonic second sound is markedly accentuated; this holds true until marked myocardial degeneration takes place in the right heart. There is practically no transmission of this murmur, the area where heard frequently being about the size of a silver dollar. This murmur is heard best in the recumbent posture and is intensified by exercise, or by inhalation of amyl nitrate. The most suggestive thing of a mitral stenosis is the rough snapping first sound of the heart. These cases were all rejected.

**Mitral Insufficiency.**—This lesion was not met with so commonly as in private work, in comparison with aortic insufficiency and mitral stenosis. It has been seen frequently in connection with these two lesions. As pure mitral insufficiency it has not been so common as would have been expected. There was nothing of particular interest about these lesions. The heart was practically always enlarged; there was a loud (but soft) systolic murmur occupying the whole of systole; heard best at the apex and transmitted through the axilla to the angle of the scapula. The pulmonic second sound is accentuated. The blood pressure is usually elevated slightly and there is not irregularity of rhythm. Relative mitral insufficiency, due to dilatation, has a rather characteristic murmur which does not occupy entire systole. It is usually mid-systolic or post-systolic. Most of the cases of mitral insufficiency were rejected, but some were put in Class C for limited service. It is probable that the local boards rejected most of the cases of mitral insufficiency and that is why more of these cases were not seen. On the other hand, the murmur of mitral insufficiency is usually louder and better heard, early, than the very soft diastolic murmur of aortic insufficiency.

**Arrhythmias.**—Extra-systolic arrhythmias were seen quite frequently, but were not considered of much importance or significance. On the other hand, persistent, irregular extra-systoles (auricular fibrillation), whether accompanied with an organic lesion or not, were

rejected. Many of these would disappear after exercise, while, on the other hand, there were some that were decidedly aggravated by exercise and these were promptly rejected. An observation made was that there were very few cases of extra-systole found at demobilization while they were quite frequent at the time of mobilization. This is probably explained by the regular exercise they had during their military training.

Only two cases of complete heart block (Stokes-Adams disease) were met with, and they were promptly rejected.

Sinus arrhythmia was met with most often of all arrhythmias. While this is of no significance pathologically, it was interesting to note how often it was seen.

**Paroxysmal Tachycardia.**—Only one case of this most distressing condition was seen during paroxysm. The pulse was so fast that it could not be counted; he was dyspnoeic, somewhat cyanotic. The paroxysm lasted about five minutes, then the rate was ninety per minute, and the man was perfectly comfortable. He gave a history of having had many of these attacks. There was no organic lesion of the heart, but he was promptly rejected.

**Situs Inversus (Dextrocardia).**—While there is nothing of significance about these cases of dextrocardia, it is of interest to know that I saw seven cases. Three other cases were seen in which the heart had been pulled to the right of the sternum by fibrous changes in the lung. The cases of dextrocardia were accepted for full military duty, so far as the heart was concerned. Several cases were seen in which the heart was displaced by pleural effusion.

**Combined Lesions.**—The most common combination met was aortic insufficiency and mitral insufficiency. About thirty per cent of the aortic cases also had a pre-systolic murmur that was called Flint murmur.

The next most frequent combination was mitral stenosis and insufficiency. Of the functional murmurs the most frequent combination was apex, systolic and pulmonary systolic murmurs.

**Congenital Lesions.**—The only congenital lesion met was patent ductus arteriosus in

four cases. These cases had a loud blowing or humming sound in the second left interspace, no transmission, that occupied the whole of systole and into diastole without any changes in the size of the heart. The pulmonary second sound was accentuated in all these cases. This type of case was rejected.

**Hypertrophy with Hypertension.**—These cases were met quite frequently and were referred to the base hospital for urinalysis. Few were reported back as having albumen and casts, while the most of them were negative reports. There was an accentuation of the aortic sound and the blood pressure was from 160 to 200 mm. Hg. They were not associated with an enlarged thyroid. At Camp Sherman many cases were met with hypertrophy and hypertension that did have a definite enlargement of thyroid, tremor and sufficient evidence to say the thyroid was responsible. Doubtless the cause of most of these cases could have been located if we could have kept them under observation for several days, and been able to carry out the proper functional tests, but we had found enough evidence to reject them.

**Hypertrophy without Hypertension.**—Several of these cases were seen. While we could not account for this, many of them gave a history of being athletes. Doubtless something could have been found out as the cause if we had had the opportunity of keeping them in the base hospital and working them out more thoroughly.

**Myocarditis.**—Practically all the cases of myocarditis gave a history of recently having had influenza, pneumonia, diphtheria or scarlet fever. Most of these cases came to us after having spent several weeks in the convalescent center. They all gave a history of being easily exhausted on exertion associated with marked dyspnoea. Most of these cases had some dilatation of the heart. A few cases of marked dilatation were encountered. Soft functional murmurs were often heard, and there was a distinct weakness of the tones of the heart sounds. The pulse was usually very rapid and they respond very poorly to the exercise test. The pulse is usually very irregular. They have a sense of praecordial distress and their extremities are cold, cyano-

notic and rather anemic. The blood pressure is usually lowered and an irregularity is noted in taking the systolic reading.

While it is not certain the gassed cases have a definite myocarditis, it is true that the above description is present in most of the gassed cases.

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### MOVING AHEAD.

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The signs of professional and scientific advancement by the medical profession of Tennessee are numerous and easily apparent to anyone who has been at all interested in observing the movements of the profession in this state during the last ten years. Naturally, perhaps, advancement has been most marked in the larger centers of the state, but a wonderful improvement is to be noted in places away from the cities and even in very remote districts. We still have an unduly large number of pulse and tongue diagnosticators and an unduly large number of symptom treaters, no doubt, but the men in the profession in Tennessee who are daily using scientific methods in diagnosis and who have gotten away from blind prescribing for presenting symptoms without any real effort at diagnosis are far less numerous than they were ten, or even five, years ago. There are probably many reasons for all this, but we prefer to believe that the foremost reason is to be found in the fact that the medical profession of Tennessee today, more than ever before, is composed of men of the kind that should be in the practice of medicine—with the right kind of hearts, with better preparation for scientific work, with an interest in medicine for medicine's sake, and for humanity's sake.

It is strange, however, that as scientific advancement has become most marked, medical organization has been gradually growing weaker in many counties. This certainly is to be wondered at, and is a condition which should not be permitted to continue.

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Send in that birth certificate and help get the real facts about the birth rate and the infant mortality rate in our state.

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

JULY, 1919

## EDITORIALS

### WHAT SHOULD WE CALL THIS?

There are ways and ways of getting money, and we have heard something of nearly all the schemes that have been devised for this purpose. There is the scheme of the porch climber, for instance, and the scheme of the pick-pocket, and that of the short-change artist, and the scheme of the three-card monte shark, and the sleep-producing plan of the highwayman with the sandbag, none of which is quite as refined as the method of the counterfeiter, but each of which has its adherents, as the records of our criminal courts will show.

Lately we have heard of another scheme, which for originality and for downright crookedness and meanness has all others backed off the boards. When we have described it, we should like to have your suggestion as to what we shall call such practice without the use of descriptive profanity.

A doctor, or rather a man with a license to practice medicine, sends a specimen of blood or sputum to the laboratory of the State Board of Health for examination, that he may be able to make a diagnosis. The laboratory makes the examination and reports to the doctor, who then proceeds to collect a nice little fee from his patient for whom the examination was made. The laboratory makes all examinations without cost to doctors or people.

What shall we call it? Thievery? Too mild. Robbery? Absolutely an inadequate term. Stealing? Does not begin to indicate the meanness involved. Give us a name for it.

### MATERIAL FOR THE JOURNAL.

There are now in the hands of the editor of this Journal scientific papers which will fill about three or four more numbers of the Journal. When these are gone, unless members of the Association will send in other papers for publication, the editor will be without material for the body of the Journal. Several of the papers read at the last annual meeting have never been sent in to the editor.

The Journal of the Tennessee State Medical Association can never be any better than the members of the Association will make it. If you want the Journal, then you must furnish material for it. If you do not want it, then send your delegates to the next meeting of the Association instructed to vote for its discontinuance.

If promises would make a medical journal, we could issue a book—a real big book every month. The only substantial structure we have ever heard of that has been made up of promises is the pavement of hell. We do not know how this may be, but we do know that the promises we have had in five years have never added a line to the Journal of the Tennessee State Medical Association, except when such promises have been redeemed within a very short period of time. And, allow us to add, comparatively few have been redeemed.

Are you not interested in something that you can write about in a way that will interest other physicians in Tennessee? If you are and if you can, send it in—double-spaced and written on one side of the paper.

### VENEREAL DISEASE CONTROL.

In this number of the Journal will be found the rules and regulations adopted by the Tennessee State Board of Health for the control of venereal diseases.

Tennessee's share of the first one million dollars appropriated by Congress has been received by the State Board of Health and placed to the credit of the Board in the treasury of the state. Within the very near future a Venereal Disease Control Officer will be on duty at the office of the State Board



of Health and plans for active work in the field of venereal disease control and prevention will be begun. It is hoped that the same success which has characterized the work of similar nature undertaken in so many other states will attend the efforts of Tennessee's health department in this new work. No doubt many difficulties will be encountered, just as many difficulties have been encountered in any worth while enterprise that has been undertaken since the beginning of time, but it is believed that great and real good can be accomplished through an effort to put the people into possession of sensible information about syphilis and gonorrhea, and that something, at least, can be accomplished to reduce to some extent infection disseminated by diseases prostitutes. Whoever thinks that a very widespread and earnest interest in this matter does not exist in the public mind is far astray from fact. Dozens of inquiries have poured into the office of the State Board of Health, and numerous assurances of support have been given by commercial and civic and social organizations and by the managers of industrial plants. A large number of druggists have pledged themselves to discontinue the practice of "counter prescribing" and the selling of patents and other preparations for the self-treatment of venereal diseases. Detention homes have been already established in two Tennessee cities, and \$13,000 has been raised by a volunteer organization in one city to finance a campaign against venereal diseases. A great many physicians of the state have given cordial assurance of their help in the work. On the whole, the outlook is encouraging indeed, and it is to be hoped that enough can be accomplished to remove opposition within a reasonable time, and that the terrible blighting effects of venereal disease among our people may be considerably reduced.

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### THE RETURNING MEDICAL ARMY.

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Our remarks upon the doctors who have made sacrifices, joined the army and served their country because they were needed must not be misunderstood—all honor to them.

Our observations are made independent of our feelings of admiration.

What will be the attitude of these men toward their future? They have spent many months, if not years, in a post-graduate school. They have left their homes and practice and have formed new ideas in new surroundings. Will it be at all strange, then, if they make an effort to improve themselves by taking other fields of work? We see this occurring every day. We see the man who has been a success going into a specialty; we see the country practitioner coming to the city for more money and an easier life. This is not wrong, and we do not mention it critically, but only to study the effect upon those localities from whence these men come. Who will take their places? Since the medical graduate must now have spent four years in college, four years in medical school and one in hospital, or nine years fitting himself, will he go to the country, where the maximum income will be probably two thousand per annum, even if that is attained the first year?

Far be it from us to say anything which may make it appear we do not approve of all knowledge; knowledge is power. We know it—we see examples of it each day. We do not, however, believe that all minds should be confined in their development to one particular direction. We are not thoroughly impressed that the man who has been to school in the effort to become a practicing physician, hoping to relieve suffering humanity, and has studied physiological chemistry more than three hundred (300) hours in his first two years will be any better fitted to diagnose erysipelas from bee sting. We must have a foundation of practice and experience. The outlying districts have a right to get medical attention, and either the college is going to have to lower the standard or the government will have to take control of the location of certain physicians.

We are looking forward to the future with interest and wonder as to how the puzzle, apparently so complex now, will work out in the years to come.—G. R. W.

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The trend of modern thought on the part of present-day surgery will soon make it ob-

ligatory upon the obstetrician to remove the foreskin of each male child upon delivery. The objections to this practice that have been heard are becoming still more faint. We cannot help from admiring and wondering at the hygienic acumen of the universal leader, Moses; his making circumcision a religious rite is now recognized as great wisdom. The necessity exists in a great majority of cases; the advantage is in favor of an universal custom.

### NOTES AND COMMENT

Dr. Thomas Ingram, Memphis, has received his discharge from the Medical Corps of the Army and returned to his home. Dr. Ingram will specialize in orthopedic surgery.

Dr. David R. Pickens, Nashville, is back in private practice after a term of service of about one year in the Army.

Don't forget to write to the laboratory of the State Board of Health for containers to be used in sending in specimens of sputum, blood, feces and serum for examination. This service is free to the physicians and people of the state, and it is the earnest wish of the State Board of Health that it shall be used.

Dr. Eugene Orr, Nashville, has resumed his practice in ophthalmology, after having served with the Army for nearly two years.

And when you sign that death certificate, be sure to give the real cause of death in a way that will enable your statement to be used to advantage in compiling the vital statistics of Tennessee.

What do you know about the workmen's compensation law that was passed by our last Legislature? It will pay you to inform yourself about its provisions.

The State Board of Medical Examiners had 104 applicants for license at their last annual meetings. At Nashville there were 59 applicants, 57 of whom successfully passed the

examinations; at Memphis, there were 33 applicants, and 30 passed; at Knoxville there were 12 who took the examinations, and 11 were successful in their efforts to secure license. This is a good showing, and it appears that the young men applying for license to practice in Tennessee are better prepared than were the majority of applicants a few years back.

Every man that has reported agrees most heartily with our diagnosis concerning the trained nurse of today. But not one of them is willing to be quoted. All of which proves the correctness of our statement.

Dr. W. C. Bilbro, Jr., has entered the practice of medicine in Nashville. Dr. Bilbro's offices are in the Jackson Building.

Capt. C. M. Baker, Associate Sanitary Engineer of the United States Public Health Service, is now on duty with the Tennessee State Board of Health.

Don't forget that you can secure typhoid vaccine, smallpox vaccine and diphtheria and tetanus antitoxins at prices within reach of the average citizen by asking for the State Board of Health products put out by Squibb & Sons.

Rabies is prevalent in Cocke and Jefferson Counties, and has developed in Sevier County. The laboratory of the State Board of Health will examine the heads of animals suspected of having rabies if they are properly shipped. Indigent persons can secure anti-rabic treatment at the laboratory.

Dr. F. D. Bristol, who has for some time been serving as the Secretary of the State Board of Health of Maine, is the new Dean of the School of Medicine of the University of Tennessee at Memphis. Dr. Bristol is a young man of distinguished ability and will be heartily welcome to Tennessee, where it is believed he will render splendid service, not only as a teacher, but also in matters of public health, in which latter field he has had extensive experience.

**MISCELLANEOUS****RULES AND REGULATIONS OF THE  
TENNESSEE STATE BOARD OF  
HEALTH FOR THE CONTROL  
OF VENEREAL DISEASES.**

Whereas, syphilis, chaneroid and gonococcus infection are communicable diseases, dangerous to the public, and it is required of the State Board of Health to protect the health of the citizens of this state against dangerous communicable diseases, syphilis, chaneroid and gonococcus infection are hereby declared notifiable diseases and shall be reported to the State Board of Health in the manner and form hereinafter described:

Section 1. **Syphilis, chaneroid, and gonococcus infection, generally called venereal diseases and referred to hereinafter in these regulations as "venereal diseases," to be reported.**—It shall be the duty of every licensed physician, of every superintendent or manager of a hospital or dispensary and of every person who gives treatment for a venereal disease, to report to the State Board of Health, at Nashville, Tenn., through the municipal or county health officer having jurisdiction, on a card supplied by said Board, each case of such venereal disease, stating the age, sex, color, marital condition and occupation of the diseased person, the nature and previous duration of such disease, its probable origin, and such information as may be required; said report to be mailed or otherwise delivered to the municipal or county health officer having jurisdiction within three days after the first examination of such diseased person; provided that, except as hereinafter required, the name and address of such diseased person shall not be reported.

Section 2. **Reports to be confidential.**—All information and reports concerning persons infected with venereal diseases shall be confidential and shall be inaccessible to the public, except insofar as publicity may attend the performance of the duties imposed upon health officers. Each case shall be reported by number and record of each case shall be kept by the physician or person treating the

disease, which record shall contain the name, number, age, sex, color, occupation, marital condition, date, residence, and probable source of infection, and the name or names of any physician or person who may have treated the case formerly. The number used in reporting the first case by each physician or person required to report shall be number one, the second number two, etc., seriatim, except it be a case formerly treated by another physician or person, when the letter "A" shall be prefixed to the case number; provided, that the name and address of a prostitute so infected shall appear on the report card.

Section 3. **Physician or person treating the disease to be responsible when name not reported.**—When a case of venereal disease is reported by number only, the physician or person treating the disease shall assume responsibility for the faithful observance of all rules and necessary precautions by the patient, and the responsibility shall continue until the patient appears to be cured or non-infective to others, at which time a report to this effect is to be transmitted to the State Board of Health through the municipal or county health officer having jurisdiction, such report to contain the serial number or identification under which the case was originally reported. When reasonable evidence is secured to indicate that said rules and precautions are not being observed, the name and address of the patient shall be at once submitted to the State Board of Health.

Section 4. **Change of physician to be reported by patient to physician consulted.**—When a person applies to a physician or other person for treatment of a venereal disease, it shall be the duty of the physician or person consulted to inquire of and ascertain from the person seeking treatment whether such person has theretofore consulted with or been treated by any other physician or person, and if so, to ascertain the name and address of the physician or person last consulted. It shall be the duty of the applicant for treatment to furnish this information, and refusal to do so, or falsely stating the name and address of such physician or person consulted, shall be deemed a violation of this regulation.



It shall be the duty of the physician or person whom the applicant seeks to and does consult or employ to notify immediately the physician or person last consulted or employed of the change of advisers, such notification to be made upon a form furnished for that purpose by the State Board of Health. Should the physician or person previously consulted fail to receive such notice within seven days after the last appearance of such venereally infected patient, it shall be the duty of such physician or person to report to the State Board of Health the name and address of such venereally diseased patient.

**Section 5. Persons afflicted with venereal diseases to be given a circular of information.**—It shall be the duty of every licensed physician and of every other person who treats a person afflicted with venereal disease, to give to such person at the first examination a circular of information and advice concerning venereal diseases, such circular to be provided by the State Board of Health.

**Section 6. Parents or guardians responsible for the compliance of minors with the requirements of regulations.**—The parents or guardians of minors who have acquired venereal diseases and who live with said parents or guardians shall, when notified, be responsible for the compliance of such minors with the requirements of these regulations.

**Section 7. Placarding.**—Whenever a prostitute is found infected with gonococcus infection, syphilis in the infective state, or chaneroid, the premises shall be placarded unless such prostitute be moved to a hospital or other place where isolation and proper treatment can be carried out. The placard shall be white, and not less than six inches in width and ten inches in length, bearing the words, "Venereal Disease" printed in bold black-face type not less than three inches in height, and such placard shall be affixed at the front and at the rear entrances to the building in which such prostitute resides.

**Section 8. Permit required for change of residence.**—No prostitute having any venereal disease shall remove from, and shall be prohibited from moving out of one health jurisdiction into another without first securing a removal permit from the local health

officer where said prostitute resides, and the further securing of an acceptance permit from the health officer at the place of contemplated residence.

**Section 9. Period of control.**—The control of fully reported cases shall rest with the municipal or county health officers in whose respective jurisdiction such cases may reside, in co-operation with the attending physician, and shall continue in all cases throughout the period of infectiousness of the disease. A case of gonococcus infection is to be regarded as infectious until at least two successive smears taken not less than forty-eight hours apart fail to show gonococci upon examination of such smears by a bacteriologist approved by the State Board of Health. A case of chaneroid shall be regarded as infectious until all lesions are healed.

**Section 10. Prohibited occupations.**—Persons affected with infectious venereal diseases shall not be engaged in any capacity in any occupation the nature of which is such that their infection is likely to be borne to others.

**Section 11. Definition.**—The term "prostitute" used in these regulations shall be construed to mean a person practicing sexual intercourse promiscuously.

#### LOCAL REGISTRARS OF VITAL STATISTICS.

**Anderson County.**—Civil District No. 1, J. W. Carden, Route 1, Heiskell; Civil District No. 2, J. Allen Carden, Andersonville; Civil Districts Nos. 3, 4 and 6, Miss Laura Gamble, Clinton; Town of Clinton—Civil Districts Nos. 5 and 14, Otis Leach, Coal Creek; Civil Districts Nos. 12 and 13, G. P. Norman, Briceville; Civil District No. 7, B. S. Diggs, Oliver Springs; Civil District No. 8, S. B. Tadlock, Route 3, Clinton; Civil District No. 9, S. W. Lowe, Edgemoor; Civil District No. 10, J. K. Arthur, Podopholine; Civil District No. 11, Sam Cox, Route 1, Heiskell.

**Bedford County.**—Civil District No. 1, J. R. Stepp, Route 2, Bellbuckle; Civil Districts Nos. 2 and 3, Dr. J. P. Taylor, Wartrace; Civil Districts Nos. 6 and 7, outside of Shelbyville, and Nos. 21 and 23, town of Shelbyville, Dr. G. W. Moody; Civil District No. 25, D. H. Sneed, Normandy; Civil Districts Nos. 4 and 5, Dr. T. H. Woods, Bellbuckle; Civil District No. 8, M. F. Parsons, Shelbyville; Civil District No. 9, J. Will Kimmons, Route 1, Fosterville; Civil District No. 10, B. F. Bullock, Rockvale; Civil District No. 11, T. H. Wortham, Unionville; Civil District No. 18, Jno. T. Favors, Shelbyville; Civil Dis-

trict No. 19, Dr. E. A. Davidson, Route 1, Petersburg; Civil District No. 20, Mrs. J. D. Kimmons, Route 8, Shelbyville; Civil District No. 22, Wm. Hart, Flat Creek; Civil District No. 24, Dr. J. T. Conditt, Flat Creek.

**Benton County.**—Civil Districts Nos. 1 and 11, H. W. Hatley, Holliday; Civil District No. 2, E. R. Prince, Holliday; Civil District No. 3, Bowen Latham, Camden; Civil District No. 4, T. J. Smothers, Camden; Civil District No. 5, outside of Camden, Hugh Bivens, Camden; Civil District No. 6, Geo. R. Bain, Camden; Civil District No. 7, W. M. Blanks, Eva; Civil District No. 8, outside of Big Sandy, J. C. Davis, Big Sandy; Civil District No. 9, Clarence Clement, Big Sandy; Civil District No. 10, O. N. Pafford, Eva; Civil District No. 12, C. C. Hollingsworth, Zach; Civil District No. 13, C. W. Odle, Sugar Tree; Civil District No. 14, Dee Smith, Holliday; Civil District No. 15, J. D. Bivens, Camden; Civil District No. 16, E. G. Hall, Faxon.

**Bledsoe County.**—Civil District No. 1, Dallas Roberson, Mt. Airy; Civil District No. 2, E. G. Wright, Pikeville; Civil District No. 3, Tom Pearson, Nine Mile; Civil District No. 4, Esq. U. S. Morgan, Route 3, Dayton; Civil District No. 5, Sidney Beach, Pikeville.

**Blount County.**—Civil District No. 1, G. W. Ross, Mint; Civil District No. 2, S. G. Hinton, Greenback; Civil District No. 3, Thos. Boring, Razor; Civil District No. 4, Isaac Dunlap, Friendsville; Civil District No. 5, Ignitus Jones, Friendsville; Civil District No. 6, S. T. Lane, Friendsville; Civil District No. 7, A. C. Robbins, Mint; Civil District No. 8, D. S. McGinley, Maryville, R. F. D.; Civil Districts Nos. 9 and 19, H. M. Clark, Maryville; Civil District No. 10, G. W. King, Louisville; Civil District No. 11, Peter Rule, Rockford; Civil District No. 12, S. R. Kinnamon, Maryville; Civil District No. 13, Joe Houston, Route 8, Maryville; Civil District No. 14, Rev. J. M. Waters, Maryville; Civil District No. 15, D. W. Rambo, Townsend; Civil District No. 16, Andy Gregory, Cades Cave; Civil District No. 17, Jno. J. Gribble, Benfield, R. F. D.; Civil District No. 18, Alvin Walker, Walland.

## ANOTHER NEW LAW.

### Chapter 117, Public Acts 1919.

#### Senate Bill No. 377.

By F. D. Fuller.

AN ACT to amend Chapter 78 of the Acts of the State of Tennessee of 1901, passed April 20, 1901, and approved April 22, 1901, entitled A Bill to be entitled an Act to regulate the practice of medicine and surgery in the State of Tennessee, and to define and punish offenses committed in vio-

lation of this Act. And to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled An Act to regulate the practice of medicine and surgery in the State of Tennessee, and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889, by striking out Section 16 and substituting therefor a new section.

Section 1. Be it enacted by the General Assembly of the State of Tennessee, That Chapter 78 of the Acts of the State of Tennessee of 1901, passed April 20, 1901, approved April 22, 1901, be and is hereby amended by striking out Section 16 of said Act, as the same now reads, and inserting the following:

“Section 16. Be it further enacted, That the words, ‘unprofessional or dishonorable conduct,’ as used in Section 15 of this Act, are hereby declared to mean:

“(1) By procuring or aiding or abetting in procuring a criminal abortion.

“(2) The obtaining of any fees on the assurance that a manifestly incurable disease can be permanently cured.

“(3) The wilfully betraying of a professional secret.

“(4) All advertising or medical business in which untruthful and improvable statements are made.

“(5) All advertising or medicine or means whereby the monthly periods of women can be regulated or menses re-established if suppressed.

“(6) Conviction of any offense involving moral turpitude.

“(7) Habitual intemperance or excessive use of narcotics.

“(8) The practice of making or signing in his professional capacity of any certificate that is known to be false by the licensed physician at the time he makes or signs such certificate.

“(9) The dispensing, prescribing or distribution of any opium, cocoa leaves, or any compound, manufacture, salt derivative or preparation thereof, not in the course of his professional practice only, or not in good faith to relieve pain and suffering, or to cure an ailment, physical infirmity or disease.

“(10) To dispense, prescribe or distribute



to any patient opium, cocoa leaves or any compound, manufacture, salt, derivative or preparation thereof, if such patient is addicted to the habit of using said drugs without making a bona fide effort to cure such habit of such patient.

“(11) To dispense, prescribe or distribute any opium, cocoa leaves or any compound, manufacture, salt, derivative or preparation thereof to any person in violation of any law of the State of Tennessee or the United States of America.”

Section 2. Be it further enacted, That after the Board shall have revoked the license of any person for any of the foregoing grounds, such person shall not thereafter practice medicine or surgery in the State, and for each and every instance of such practice shall be guilty of a misdemeanor, and on conviction thereof, be fined in the sum of not less than \$100.00, and not more than \$500.00.

Section 3. Be it further enacted, That this Act take effect from and after its passage, the public welfare requiring it.

Passed April 10, 1919.

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### DIPHTHERIA CONTROLLABLE.

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The Commissioner of Health, through the pages of the Bulletin, has repeatedly called attention to the fact that the death rate from diphtheria in Chicago is criminally high.

Especially is this statement true when it is remembered that along both prophylactic and curative lines, agencies of known and tested efficiency are available to all and practically without cost to those unable to pay. And while it is true that there was a marked reduction in the deaths from this disease for the year 1918, as compared with 1917, the figures standing 1,228 deaths for 1917 and 720 for 1918—yet 720 children are far too many to be killed in a single year by a disease which can be prevented and for which there is a known and positive cure.

It is well known that antitoxin, if given early enough, is a positive cure for diphtheria. Also that if administered to children who have been exposed to the disease it affords almost certain immunity from attack. But within recent years medical science has given

additional armament for defending the children of today from the ravages of this one of the major destroyers of child life. These added agencies, now of known and tested value, and the use of which was urged from the first by the Department of Health, are the Schick test, used for determining susceptibility to attack from diphtheria and the discovery of a toxin antitoxin for effective immunity, which, according to tests made, is good for three years and may last much longer.

The Schick test is of great practical value in determining the immunity of child population in schools, hospitals, child institutions and in homes during an outbreak of diphtheria. Children in which no reaction occurs after the test has been given are regarded as immune; which means that they would not “catch” diphtheria even if directly exposed. It has long been observed that out of a given number of children exposed to diphtheria, there are always those who, being naturally immune, do not contract the disease. The Schick test indicates this natural immunity and at the same time it also singles out the susceptibles, who then only need to be given the immunizing toxin antitoxin to render them equally safe from being attacked by the disease.

During the year 1918, in line with the advice of the Department to the public through the Bulletin, 3,525 children in the schools were given the immunizing treatment and so far this year about 2,000 pupils. The serious obstacle in the way of complete success in the general use of the agencies, now recognized as both safe and effective for the control of diphtheria, is the objections of parents or their indifference in a matter of so vital importance as the health and the lives of their children.

It is hoped, however, that when both parents and physicians once fully realize that diphtheria is both preventable and curable and easily so, if only the proper procedure is followed, the Department of Health will be given better co-operation in the fight which for years it has so persistently waged against this disease.—From the Bulletin of the Chicago Health Department.



# **THE JOURNAL**

OF THE

## **TENNESSEE STATE MEDICAL ASSOCIATION**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

*ISSUED MONTHLY, under Direction of the Trustees*

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### **SOME PRACTICAL PROCEDURES USED BY THE ARMY THAT ARE APPLI- CABLE TO CIVIL WORK.\***

By Lucius E. Burch, M. D., F. A. C. S.,  
Professor of Gynecology and Dean of the  
School of Medicine, Vanderbilt Univer-  
sity, Chief Surgeon T. C. R. R., Lieu-  
tenant-Colonel M. C., Retired.

The world's war has been brought to a glorious end, and all Americans have a just pride in the part that American arms have played on foreign soil. Too much credit cannot be given to the medical profession for their sacrifices, their devotion to duty during the crisis from which the world has just emerged. History will show that almost thirty-three and a third per cent of our profession gave up home, friends and practice, and entered either the Army, the Navy, the Marine Corps or Public Health Service. It will also point out that their duties were always cheerfully and readily carried out, and that the medical man not only showed his adaptability to strange conditions and surroundings, but also proved his worth as a soldier and an officer.

Many new and valuable discoveries have been brought to light during the war. Some of these are only useful in military surgery; many others will be of great value in civil practice. I will endeavor to describe to you briefly a few practical procedures that the

war has brought out or rejuvenated that are applicable to civil work.

Shock is a condition that is frequently found both in civil and military practice. Many of the soldiers that were brought in from the battle field were in profound shock. A special shock ward was set aside in the evacuation hospitals for the treatment of these cases. These wards contained no elaborate apparatus, and many of their appliances were crude, but at the same time were quite effective. It is necessary to keep a patient who is in shock warm, and restore, if possible, the loss in body heat. This was done by a simple appliance. Wooden boxes, the length of a litter and about two feet high, were made without floor or roof. An opening was made in one end of the box sufficiently large to carry a pipe leading from an oil stove which was placed at one end. The litter containing the patient is placed on the box, the stove lighted, and the patient covered with blankets. The heat conducted from the stove through the pipe to the space beneath the patient rises upward, and serves the desired purpose.

Blood transfusion by the citrate method was found to be the most practical and easiest procedure. The hospital corps men all had their blood grouped, and when a patient came in needing transfusion a proper donor could be quickly selected. It goes without saying that the blood of all the donors had a Wasserman test before being placed on the list as suitable. In times of a heavy push, blood transfusion was not always practical, and as a substitute a six per cent gum acacia solution was used. Many lives were saved by these

\*Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

shock wards, with their simple apparatus, and in my opinion, the time is coming when every civil hospital will have a shock ward, with attendants who are capable of grouping and transfusing blood, and the various appliances for restoring and saving body heat.

The anesthetics that were used in the base hospitals of the A. E. F. were the same as used in the civil hospitals in this country. In the evacuation and field hospitals, however, nitrous oxide and oxygen were not available, and ether by the drop method was the usual anesthetic. In times of push, when it was necessary to save time, the patients were anesthetized first with ethyl chloride and then changed to ether. This is quite a time saver. For short anesthetics and for painful dressings and short operations, the methods of Depage was used frequently. The solution consists of ether 96 cc, ethyl chloride 22 cc, chloroform 2 cc, oil of orange  $1\frac{1}{2}$  cc. This solution should be freshly made before using, and is poured on a cotton pad about 5 cc square. This pad is placed in a rubber bag that envelopes the face. The patient is told to inhale, and usually within a minute or a minute and a half, the operation can proceed. There should be a hole in the center of this bag, which is kept closed, unless cyanosis appears, then it is opened, and after the color returns it is again closed. This is a splendid and quick anesthetic and should be used in civil work. I also used successfully oral anesthesia which was brought out by Gwathmey. This consists in having the patient swallow ether in port wine. A preliminary dose of morphine and atropine should be given thirty minutes before the oral anesthetic is administered. In some cases the results are excellent; in others they are very poor. I remember one case on whom I operated for empyema at Camp McClellan, which was quite successful. The patient afterwards informed me that he felt no pain whatsoever, but that he would like to give a dose of the medicine he swallowed to the kaiser. I might add, in explanation, that port wine was not available in this camp, and as a substitute essence of orange was used.

The treatment of burns by the paraffin method has been uniformly successful, espe-

cially if dichloramine T is sprayed on the paraffin immediately after it is applied. Solutions of peroxide of hydrogen were found quite effective for gas burns, and it is also beneficial for burns of all kinds. The dressings must be kept continually moist with the peroxide, and an impervious dressing placed over the affected part. There is very little pain and granulation, in the great majority of cases, is quite rapid. I can conscientiously recommend both the paraffin and the peroxide method in the treatment of burns.

In no field of surgery has greater advance been made than in treating fractures. The American surgeon has been so accustomed to use plaster of Paris that he was slow in adopting the metal splints of the English. Many of these splints are old friends that had been relegated to the junk pile and brought out during the war. The old Thomas hip splint is an admirable apparatus. It continually maintains traction, abduction is easily carried out, and transportation is made comfortable. It may be also used advantageously in fractures of the leg. In this class of fractures it is rarely necessary to do an open operation, if this splint is used in connection with the Sinclair skid. It also has this advantage, that patients may be moved to the x-ray room for observation. An additional advantage is this, that when the bone is sufficiently united, it may be used as an ambulatory splint. The cock-up splint of Jones for fractures around the wrist joint is an excellent device, and should be universally adopted by civilian surgeons. The Thomas arm splint and also the Jones arm splint are very useful for fractures in this region. Most of these army splints are now on the market, and I believe they are well worth any surgeon's investigation and study.

The results in head injuries were exceedingly good. The soiled area around the wound of entrance in the soft parts was excised and the underlying cranium exposed by the tripod incision. The foreign body was removed, and the macerated brain tissue was extracted with the suction syringe and dichloramine T was applied to the injured area and drainage introduced. Compound fractures of the skull are not unusual in civil life,

and these injuries should be treated similarly to those in military work, excision of the soft parts and exposure of the underlying area by the tripod incision, which gives an excellent approach.

Septic knee joints were not unusual, but amputation was rarely, if ever, necessary. These joints were opened up freely by the U-shaped incision and the Dakin-Carrell treatment carried out. In speaking of knee joints, I might add that in the military service the only wounds that were closed were joint injuries, sucking wounds of the chest, abdominal wounds and wounds of the cranium.

Many of the primary amputations were performed by the guillotine method. This was due to the fact that these patients were poor risks and time was an important element. This method of amputation has a limited field in civil surgery.

The most common of all operations that were performed was the detritement. It is a radical procedure but absolutely necessary in the class of wounds that were found in military surgery. It is rarely necessary in civil work, but I would strongly urge on civil surgeons the necessity of removing muscles that are black and fail to contract in injuries involving muscular tissue. This is the most certain way of avoiding gas infection.

The x-ray has come into its own during the war, and the work of the x-ray department was excellent. The foreign bodies were, as a rule, accurately located, even in times of great stress. In the base hospitals the x-ray was invaluable in clinching a diagnosis on medical conditions, such as empyema, tuberculosis, etc. It was of the greatest aid to the surgeon in the management of fractures. This war should teach all surgeons that fractures should be reduced under the x-ray and their progress carefully watched by using either the fluoroscope or making plates.

An operation that impressed me more than any I had the pleasure of seeing in the A. E. F. was for arteriovenous aneurism. It is a method brought out by Major Connors, Chief of the Surgical Service, Base Hospital 8, Saveney, France. I have never had the opportunity of using it, but I saw Major Connors

very successfully operate on a case of this kind. The technique is quite simple, and he informs me that his results have been exceedingly good. The vein is ligated both on the distal and the proximal side of the aneurism. That part of the vein that is affected by the aneurism is then bisected between the two ligatures and stitched over the opening in the artery by interrupted sutures.

#### DISCUSSION.

Dr. Battle Malone, Memphis: I think it is very timely that Dr. Burch should bring to our attention some of the practical things that we have learned in the army service. I might say that the great majority of things we had to do on the other side we won't have to do on this side, as we are not going to see war wounds over here. For that reason the great bulk of our work was not of any particular interest. It was not to me. There were, however, a few things that were very interesting.

The thing first mentioned by Dr. Burch, the treatment of shock, was interesting to all of us. The appliances which we had in all the hospitals were such as he has described, and it was astonishing with what rapidity patients came around or reacted from shock, due in part, no doubt, to the character of the men we had to deal with. They were all young men, full blooded, had been in training for a long time, so that they were in the best physical condition at the time they were injured, and it did not take so much to bring them around as it would in the cases we see over here. In the patients coming in with shock in this country we see how difficult it is to bring about reaction. Not infrequently a patient dies from shock without reaction being brought about. On the other side we would have patients brought in with symptoms of profound shock; we would put them in the shock wards, put them in a bed with a frame over it, with hot air going on them, and fill them up with hot liquids, shortly after which the symptoms would subside, and they were ready to be taken to the operating room.

Among the things mentioned by the essayist of particular interest, and the one thing which was of most interest to me in all the work that we had on the other side, was passed over too hastily by the essayist. I do not think he paid sufficient attention to it—namely, the treatment of joint injuries. In cases of septic joints, the joint was laid wide open, and in this we were more successful with hinge joints than ball and socket joints. These joints were laid wide open, and he did not mention that early motion was begun. This is a thing that is revolutionary. We never heard of it before. It was brought



out by Willems, a Belgian surgeon, before the war. After the war came on, he began early mobilization of all joint injuries except those in which there was a fracture complicating, and then it could not be kept up. It is marvelous; it is hardly believable, and you might think I was exaggerating if I tell you the wonderful results we secured from early mobilization of all joint injuries, whether infected or not.

Dr. Burch said that we did not close septic joints. He did not mean that exactly. Joint injuries were closed unless we knew that the joint was infected at the time the operation was done, or at the time the patient came in. If a joint was infected we began to move the joint in twelve or eighteen hours. By moving the joint freely all contents of the joint were expelled. Every time the limb was extended and flexed, every particle of material in the joint was forced out so that we had the best drainage possible. We escaped periarticular infiltration, and there was preservation of function all through the treatment, and the patient would get well, would be up and walking on the joint in a short time.

I remember one case that everybody was interested in—Capt. Archie Roosevelt. I saw him in Evacuation Hospital No. 1. His wounds were multiple. He had a bad compound fracture of the upper half of the humerus and a large foreign body in his left knee joint. Twenty-one days after he was wounded I saw him walking around at Toul and one could not tell which leg was hurt. We could not get such a result as that by any method we ever used before. And that was the rule. The exception was when we had some virulent infection where the infection spread from the joint to the bone.

Just a word about the splint Dr. Burch showed you—the Thomas splint for the shoulder. This splint after the patient is in the hospital is excellent. It is splendid for mobilization; it is splendid for carrying out traction and for suspension and extension, and the suspension treatment of fractures, as carried out in the war, was followed by wonderful results. But for transportation this splint is inferior to some other splints. You cannot transport a patient with this splint, but with a hinge put on thus (showing), the arm comes down the side, and you can carry out the same amount of extension.

Dr. Burch (closing): I want to emphasize what Dr. Malone has brought out in regard to passive motion at an early date in those cases in which the joint is involved. The orthopedists in the army lay great stress on moving the patella from side to side while the limb is in a splint, and I can heartily commend this procedure.

I desire especially to call your attention to the Thomas hip splint (referring to the splint), which before the war had been relegated to the

junk pile. This splint may be quickly adjusted. Traction and abduction are easily carried out. The adhesive is tightened daily by introducing a nail or piece of wood and twisting it and in this way continuous traction is maintained. The patient at any time can be sent to the x-ray room for observation, and later on the splint may be used as an ambulatory one. The Thomas hip splint is also a splendid device for treating fractures of the tibia and fibula, and with the aid of the Sinclair skid, the necessary traction can be obtained and open operation is rarely necessary.

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## SECONDARY CATARACT AND METHODS OF TREATMENT.\*

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By C. M. Peavler, M. D.,  
Bristol, Tenn.

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It has seemed to me that the subject of after-cataract is not receiving as much attention as its importance calls for. Some of our standard text books on ophthalmology give the subject rather scant attention, and it is not very often that the subject comes up for discussion in our ophthalmic sections. Why this is, I cannot say, but I do not think it is due to a failure on the part of the profession to appreciate the importance of the subject.

Since more than half the cataract operations we perform must be followed by the secondary operation, in order that the best results may be obtained, we think it well worth our while to bring before this Section some of the practical features of this subject, hoping to elicit a discussion that will prove profitable.

If the time should ever come when the average eye surgeon can remove the lens in its capsule with as much ease and safety as the ordinary combined operation is done at the present time, then there will seldom be occasion for the secondary operation, for the simple reason that pupillary membranes will be very rare, or occur only as the result of inflammatory complications. But it is our opinion that extraction in capsule will never be

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\*Read before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

a safe operation for the man of ordinary skill; and hence we shall continue to deal with after-cataracts in the future as we have in the past.

It is estimated that more than half the eyes operated on for cataract develop pupillary membranes of sufficient capacity to require a secondary operation. The percentage of eyes requiring such operation varies with different operators. Probably a fair average would be from sixty to seventy-five per cent, if we could include all cases in which vision can be improved by such an operation.

We know of several causes that contribute directly or indirectly to the formation of after-cataract. And a foreknowledge of these causes, if rightly applied, may serve to make the secondary operation less frequent. First, and probably most important of the causes that I shall mention, is the extraction of unripe lenses. The chief and only serious objection to the removal of unripe cataracts is, that we do not get a clear pupil, and are forced in nearly every instance to do a secondary operation.

A green lens does not as easily and completely separate from its capsule as does a ripe one; and portions of the green transparent lens are left loose in the anterior chamber, or are left adhering to the capsule. If loose, they swell up and become opaque masses, blocking the pupil; if adhering to the capsule, they undergo proliferation with its evil consequences. The result is that when the eye recovers from the operation there is a dense capsular membrane that seriously interferes with vision. It is the rule that a clear black pupil is not found following the extraction of an unripe cataract.

Imperfect toilet of the eye is sometimes a factor. In some cases it is not easy to remove all the lens substance from the anterior chamber, even when operating on ripe lenses; and it is often a question whether it is better to take the risk of leaving it to dissolve, or to take the risk of infection that comes from the introduction of spoons, etc., into the anterior chamber in an effort to remove it. Vitreous loss, too, may result from the prolonged effort to express or extract a particle of lens substance from the anterior chamber.

An insufficiently dilated pupil may have the indirect effect of causing a pupillary membrane. Following an operation, whether by the simple or the combined method, there is likely to develop a little iritis due to the traumatism and to irritation from the retained lens matter. This is more likely if the pupil is not kept dilated.

Where the iris comes in contact with fragments of capsule and lens substance, adhesion often takes place, and the exudation becomes organized and forms an opaque membrane. Hence I am an ardent advocate of the free use of atropin; the pupil to be well dilated prior to the cataract operation, and the dilation to be kept up for at least two weeks thereafter.

There is another contributing factor I will mention. That is the imperfect or improper laceration of the capsule. The capsule can be so lacerated that the lens may be extracted from it and at the same time the anterior portion may remain intact in the pupillary area. In such a case the raw surfaces of the two layers come in contact and are agglutinated, making a tough, thick membrane more or less opaque. Hence the necessity of properly lacerating the capsule in the central area, whether done with the forceps or the cystitome.

This opens up a practical question, that has been much discussed, as to whether it is better to remove a portion of the anterior capsule with forceps or to lacerate with the cystitome. It is a fair presumption that the complete removal of the capsule from the pupillary area would give a better result than the simple laceration of it. Yet, we are not able to prove that one method gives any better result than the other, or makes the secondary operation less frequent. Hence we conclude that with a ripe lense to be operated on, and the operation done under favorable conditions and with good technique, the chances of after-cataract are somewhat reduced. Yet the best operators operating under the most favorable conditions will continue to do the secondary operation in more than half their cases.

As to how long after a cataract extraction one should wait before doing the secondary



operation, will depend on circumstances. Ordinarily it should not be done earlier than six weeks; not then if the eye shows redness or signs of irritation. It is usually better to wait two or three months unless there is some special reason for doing it sooner. Some prefer to operate in two to three weeks, claiming that the membrane is softer at this early period, and can be done with less force than after the membrane gets older and tougher. Waiting for the eye to become entirely quiet and free from irritation is the safer course. For it must be borne in mind that the secondary operation is one that is attended with some risk.

Disasters sometimes follow, due either to operating before the eye has become quiet, or due to traumatism resulting from faulty methods of operating. Iritis, eyelitis, iridochoroiditis, secondary glaucoma, and even suppuration are among the evils, not to be expected, but sometimes met with after so simple an operation as needling an eye. So in doing these operations it is well to weigh the risks run against the benefits hoped for. In cases where the improvement hoped for is only slight or doubtful, the risk should not be taken.

The pupillary membranes differ much in character. In the mildest cases there is only a slight wrinkling of the capsule, or a thin veil-like opacity which causes only a slight disturbance of vision, while in the worst cases the membrane is dense and tough and vision is reduced to the counting of finger or less.

Treatment has but one aim, and that is to make an opening through the membrane that will give satisfactory vision. To make this opening, several procedures have been instituted, all of which are more or less successful. There are three principal methods practiced at the present time. Each of these has undergone some modification by individual operators as to technique and instruments employed; but the principle involved is essentially the same.

One method is the tearing a hole in the membrane by means of two needles. Another, the cutting of the membrane with a knife needle or a thin Graefe knife. The third is by opening the anterior chamber and di-

viding the membrane by means of forcep scissors. In some cases of dense opaque capsules of over-ripe cataracts extraction of the capsule may be necessary.

I shall discuss these methods separately, pointing out their respective advantages, and call attention to some of the dangers that attend them.

The operation with two needles is probably the simplest and gives as good results as any other, and might be preferred to all other methods were it not that the risk in doing this operation is considered too great. The chief danger comes from the traction made on the ciliary processes caused by tearing through tough membranes. The argument that tearing the membrane with two needles does not cause traction on the ciliary processes, is not well founded. At any rate, experience has proved that disasters sometimes follow in the wake of this procedure. For a good many years I have practiced the method of dividing these with two needles, and have had splendid results. I began to think that this was safe, but after awhile I had two disasters following this method of operation, and since that I have been operating by a method that I think is safer.

Another danger is that as the needle points separate widely they plough into the vitreous, carrying in front of them the leaves of the torn capsule, which will account for considerable displacement and disturbance of the vitreous body. The depth to which the vitreous is disturbed will depend upon the location of the corneal punctures, as well as the angle of the needles to each other, or their distance apart, as the further apart the needles are inserted, the greater the depth they will plough into vitreous when their points are separated. The opening in the capsule made in this way is generally satisfactory as to shape and size; and the optical effect is generally good.

He who would operate on secondary cataracts by the double needle method must be careful in the selection of his cases. It is an operation unsuited for thick, tough membranes. Dividing such membranes with scissors is the only safe way.

The cutting operation done with the knife



needle or small Graefe knife is one that is suitable for a large per cent of our after cataracts. The cases best suited for this kind of operation are those in which the membranes are not thick and cut easily. If there are tough membranes, the dividing of which will cause traction on the ciliary processes, we should not attempt to divide them in this way.

The instrument used, which is the knife needle in most instances, should be selected with due regard to its sharpness, size, shape and right proportion between shank and blade. So delicate an operation as this should not be attempted with a clumsy, dull, or ill-proportioned instrument.

The shape of the cut in the capsule varies with different operators. Some prefer a T-shape incision, with the top of the T two millimeters above the center of the pupil. To make this operation the needle is inserted in the horizontal meridian of the cornea, about three millimeters from the corneal margin. The horizontal cut is made first. The needle is then rotated and a cut is made from below upward, meeting the first incision.

Another method which gives equally as good results is the crucial incision through the center of the pupil and making vertical cuts from above and below to meet the horizontal. The crucial incision, if well done, probably has some advantage over the T-shaped cut, in this pupil has a better shape and is more centrally located.

In doing these operations we sometimes encounter this difficulty: During the operation the aqueous escapes by the shank of the needle, allowing the capsule to push forward toward the cornea to an extent that the anterior chamber becomes too shallow for the easy performance of the operation. Hence, the operation should be done with as much celerity as is consistent with precision and safety. Sometimes a single vertical incision through the membrane will give a satisfactory opening. In this case the incision should be as extensive as can be made for the reason that a long cut will gape more widely than a short one, and give a larger pupillary opening.

In the performance of these knife needle

operations we take care to disturb the vitreous as little as possible. Stirring up the vitreous in this way has sometimes been followed by glaucoma, detachment of the retina and other evils. Dr. Herman Knapp many years ago called our attention to the fact that ploughing through the vitreous had its dark side; and the accumulated experience of ophthalmologists since that time has proved to us the truth of Dr. Knapp's statement.

A few words remain to be said concerning what is known as the scissors operation. All cases in which the membranes are too thick or tough to be divided with the knife needle are suitable for the scissors method. This applies not only to ordinary thick capsules, but to complicated cases where by reason of iritis or iridocyclitis the iris has become adhered to the capsule; as also cases in which a complete occlusion of the pupil has taken place.

The incision into the eye is preferably made with a keratome. The keratome is entered about two millimeters from the sclero-corneal junction at such an angle that the blade penetrates the membrane, making a horizontal incision five or six millimeters long, some distance above the pupil. Through this horizontal opening in the capsule one blade of the scissors is entered and a cut is made reaching the lower margin of the pupil, or even dividing the iris if so extensive an incision is thought necessary.

Usually the margins of the divided membrane separate widely enough to give a satisfactory pupil. In the complicated cases, as following iritis, where the iris is completely united to the capsule, making a dense opaque mass of organized tissue, there will be a lack of resiliency which makes a partial excision of the matted tissues necessary. A mere division of this tissue does not make a sufficient opening, and the narrow opening made is likely to close again from blood clot or inflammatory deposits, leaving a negative result. Hence, a number of operations have been devised for the removal of a portion of the iris and capsule large enough to give a permanent pupil.

I shall not, for want of time, go into the details of these excision methods; however, I will say that they are not always easy of

performance and are not free from risk, as such eyes are often irritable, and vitreous loss in such cases is common. This risk, it seems, we should not hesitate to take, since the vision is already lost and an operation affords the only hope.

Since the excision operations as devised by Kuhnt, DeWecker and others are attended by vitreous loss and the results obtained are uncertain, and since the pupil made by this method is faulty in shape and eccentric in location, there is need for a better method of operation for this class of cases—some method that is free from so many objections and which will give as good, if not better results.

In studying the mechanical difficulties in the way of removing or excising portions of the iris and thick capsule in these worst complicated cases, it has seemed to me that a properly constructed punch would be the ideal instrument for this particular work. Punches have been designed for the purpose; but as yet they have not met with general favor. If such an instrument could be made delicate enough to be introduced easily into the anterior chamber and strong enough to bite out a section of the tough membrane, it would greatly simplify this operation and would make a pupil that would meet every requirement as to shape, size and location. The instruments of this sort that I have examined have seemed to be to be rather too clumsy to be easily and successfully manipulated through a reasonably small corneal opening. It is to be hoped that an instrument of this kind can be perfected that will render this difficult operation easier of performance and give results that are satisfactory.

The strongest argument in favor of cutting tough membranes with scissors instead of the knife, or tearing them between two needles, is that traction is not made on the ciliary processes. Another consideration is that very thick, tough membranes can be cut with scissors which could not be dealt with by either of the other methods.

The chief drawback to the scissors operation is that the eyeball must be opened and the vitreous allowed to come forward into contact with the external wound, greatly increasing the danger of infection. However,

under proper precautions, infection does not often occur. In my own experience, I have never had an infection to occur in cases of this sort; yet in many instances I have had loss of vitreous and have had reason to feel uneasy as to the consequences.

All who have had much experience in cataract work have seen glaucoma follow cataract extraction. This seldom occurs in uncomplicated cases, or cases in which there is no opaque pupillary membrane. The glaucoma is the result of after-cataract. As the membrane contracts and grows denser it causes traction on the ciliary body. This chronic irritation causes hypersecretion and hardness of the ball. This is not to be lost sight of in operating on after-cataracts. While dividing a pupillary membrane for the purpose of improving vision, we may at the same time be curing or preventing secondary glaucoma. Where we see this glaucomatous tendency following a cataract extraction, the secondary operation should not be long delayed, even though the eye shows some redness and irritation. The operation will more likely relieve the irritation and lower the tension of the eye than have an effect to the contrary.

Thick bands that are suspected of pulling on the ciliary processes should be cut across. This latter consideration will often determine the direction of the incision—whether the cut in the membrane shall be made in a vertical, horizontal or oblique direction.

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### **AN UNUSUALLY DIFFICULT CATARACT EXTRACTION AND SOME OTHER INTERESTING EYE CONDITIONS.\***

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By Robert Fagin, M. D.,  
Memphis.

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One might be justified in calling any operation for cataract difficult. To successfully open the eyeball, take out a part of its contents and not destroy, but restore vision, is

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\*Read before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



a major operation and one that is always beset with many difficulties. If this operation, then, is difficult, what things might be present to make it unusually difficult?

Before answering this question, let us bring afresh to our memories the ideal conditions which would make the cataract easiest of removal: First of all is an obedient patient; then, a competent assistant, a good light, preferably artificial, and proper co-operation from the attendants in the operating room.

Granting that all of these requirements are fulfilled, we are now ready to answer the question previously asked. Absence of any of the above would go toward making the operation unusually difficult, but other things contribute also. The greatest of these would be an abnormally sized eyeball, either larger or smaller than the emetropic eye. The position of the eye in the orbital cavity means much. If the eyeball is pushed forward, approaching an exophthalmos, or the opposite and approaching an enophthalmus, then we know we are confronted with a difficult situation. An overhanging brow is always to be dreaded.

It is the two latter conditions that contributed to make my operation unusually difficult to perform. The brow was of the overhanging type and exceedingly prominent. The eyeball was unusually small and deeply seated in the orbital cavity. There seemed to be a complete absence of the orbital fat, and the condition certainly approached an enophthalmus.

#### Report of Case.

P. T.; negro man, age 76 years. Seen first by me at the University of Tennessee clinic, January 24th of this year. The following eye history was obtained:

Right eye: Vision had been failing for the past two years, but for the past six months the vision had been very poor. Examination revealed overhanging brow, normal lids, but a very small eyeball deeply seated in the orbital cavity. There was only light perception and projection on account of the opaque lens, so the diagnosis of "mature senile cataract O. D." was written.

Left eye: Presented same physiological ap-

pearance as right eye, but had been blind for years because of some traumatic injury, which detached the retina.

The old man was sent to the general hospital and the right eye was operated upon by me the following Saturday morning. I was ably assisted by the house surgeon of the hospital and a group of senior students was present to witness the operation.

When the lid speculum was introduced, I found that the anterior part of the eyeball fell below a line connecting the outer with the inner canthus. I made my puncture and counter puncture by sight as in the ordinary case, but was unable to complete the section by sight. The eye was so small and the brow so overhanging that it was impossible to see the knife after the section was half completed. The section, however, was completed and, after much manipulation, the iridectomy was performed and the lens removed. There was an uneventful recovery and fairly good vision as a result.

I report this case only for the discussion, for I hope from it to learn what to do should I meet with a similar case. Would a canthoplasty, a permanent separation of the upper and lower lids at the outer canthus, done several weeks before the extraction, help? Or should we have a cataract knife, with the handle at right angles, to make the section with?

By permission of your Secretary, who lives at Memphis, I am reporting two recent cases of unilateral exophthalmos and am presenting a patient for diagnosis.

#### Unilateral Exophthalmos.

**Case 1.**—Mrs. B. K., age 53 years, New Albany, Miss. Patient was sent to Baptist Hospital by her family physician two weeks ago in a semi-comatose condition.

History: Had influenza this winter and for the past two weeks severe headaches, almost unbearable. Three days previous to her coming to Baptist Hospital, right eyeball has seemed to protrude and vision in it seemed dim. The exophthalmos daily grew worse. Patient developed a meningitis after coming to hospital, and died on the third day.

Autopsy showed an infection from the nose had reached the sphenoidal sinus, filled this



cavity with pus and the condition extended into the orbital cavity, causing the exophthalmos, and on into the cranial cavity, causing her death. Autopsy showed several ounces of pus.

**Case 2.**—Miss W., age 21 years; from Arkansas. Seen, also, at the Baptist Hospital. History of exophthalmos of right eye since the age of 18 years. Eye has very slowly but steadily pushed forward, and recently several times patient has been very greatly frightened by its coming from between the lids. Vision has, also, steadily decreased until light perception is all that is left. After a very careful and thorough examination and the use of the x-ray, we made the diagnosis of probably an orbital tumor causing the exophthalmos.

Saturday the eye was removed, and when I placed my examining finger in the cavity, a tumor the size of a hen egg was present. I did a canthotomy and expected to do at least a partial exenteration, when the tumor sac broke and a cheesy deposit came out. When pressure was made on the tumor, more of the same material came out. When fresh it looked something like the contents of a sebaceous cyst. There was an enormous amount of it. I have brought only a part of it in this bottle. A specimen of it went to the laboratory, but I have not had time to get the laboratory report yet. I did not remove the orbital contents. The young girl, of course, wanted as good a cosmetic effect as possible, and these tissues, to me, seemed normal.

**My Last Case.**—I am glad to have an opportunity to present one of my private patients, Mr. J. R. B. Cooper, of Holly Springs, Miss., to this body of distinguished men. I have made no diagnosis, and I am frank to say that I do not know the cause of his eye condition, neither do I know what to call it.

I saw this condition first on the 12th day of last month. At that time there was a good-sized ulcer on this growth behind each upper lid toward the fornix. This ulcerated region bled freely when disturbed, but with several treatments of silver nitrate the ulcers promptly healed. Now we have these large growths on the fornix, or at the end of each

tarsal cartilage. Each growth, as you will see, is round and smooth and is literally covered with newly formed blood vessels. I have in my hand a laboratory report. Blood for malaria, blood count, Wassermann, all negative. Urine, sugar, albumen, all negative; tissue, negative.

I hope each member will examine these eyelids and feel free to discuss this condition for "out of an abundance of counsel, there is wisdom."

#### LABORATORY REPORT.

**Urine.**—Color, amber; reaction, acid; sp. gr., 1.025; Indican, bile sugar, albumen, negative; microscopical, moderate number of pus cells.

**Blood.**—Total number leucocytes per c. mm., 8,800; polynuclear neut. leucocytes, 71 per cent; small lymphocytes, 23 per cent; large lymphocytes, 4 per cent; eosinophilic leucocytes, 1 per cent; malarial parasites not found. Wassermann reaction distinctly negative (complete haemolysis); haemoglobin, 88; total number red cells per c. mm., 4,286,000. Miscellaneous: Tissue shows only a round cell infiltration with a small amount of polynuclear infiltration and slight congestion of the blood vessels.

L. V. SCHMITTOU.

Dr. Fagin here presented his patient, as above, and made the following oral remarks:

When I first examined this man, I found it very difficult to turn the upper lid. I thought at first there must be something wrong with the tarsal cartilage, but I soon found that the tarsal cartilage was very large, then when I turned it I saw this (indicating). He did not know that he had any trouble with his eyes until he experiencing some little watering. Somebody said to him that "you have something the matter with your eyes," and for that reason he came to Memphis. When I did finally succeed in turning the lid, I found an ulcer extending from this region back to here. The same is true of the other eye, only not so marked, and when I touched the ulcer it bled freely. I thought at once that it was perhaps an epithelioma; and when I turned the other lid and looked, I found the same thing over there. If you will look closely, you will see the minute blood vessels running across the new growth; and the other eye is the same, only it has not progressed as far as this. In other words, the tumors are not quite as large; they are of the same type exactly.

**RESUME OF CATARACT OPERATIONS.\***

By G. C. Savage, M. D.,  
Nashville.

Nothing like a full critical review can be made of the cataract operations from the beginning down to the present in the short time devoted to a paper. Of course we all know that Daviel, nearly a hundred and seventy-five years ago, did the first cataract extraction operation. If any of you are passing on Eighth Avenue and will step into my waiting room, you can see Daviel in the portrait I have had made of the first operator for cataract extraction. He was led to do the operation, as you all know, by the fact that he had had a case of dislocated lens into the anterior chamber, and he concluded the best way to deal with that dislocated lens was to take it out, through a neat incision in the cornea. His success in this case made him reason that if the lens, thus dislocated, could be easily and safely taken out of the eye, why not deal with cataract in that way instead of couching? Of course, couching is out of the question now; I hardly want to refer to it, except that it lives in history only, and will live there forever. To Daviel is due the credit for the extraction operation for cataract.

The operation that was done up to a few years ago was an extraction of the cataractous lens after rupturing the capsule. There were various kinds of corneal incisions made anciently, some of them a long way from the margin of the cornea, and some nearer the margin of the cornea. But now I suppose that all of us make our corneal incision for the extraction of cataract, whatever may be the mode of operation, as near the corneal margin as possible. A good many of us make a conjunctival flap when we bring the knife out. At any rate, there is almost universal agreement among operators all over the world as to the character of incision—the location

of the incision. We make a puncture and a counter puncture opposite each other a little above the horizontal meridian and then cut straight up close to the corneo-scleral margin, bringing the knife out as near the limbus of the conjunctiva as possible.

**The Operation for Extraction, Leaving the Capsule In.**

There are operations that are done for this purpose, that differ one from another, and it is that difference that I want to present to you while studying the simple extraction of the cataract—I mean, by “simple,” leaving the capsule behind. Until a few years ago, none attempted to remove cataract, leaving the capsule in, without making the rupture of the capsule at the time of the extraction. Most of us, in taking the cataractous lens out of the eye even now, rupture the capsule after making the corneal incision and doing an iridectomy, if we do it—and nearly all of us, I suppose, do an iridectomy. There is no need of our stopping to dwell on that character of operation, leaving the capsule inside of the eye, for we all know about it, we have all done it, and possibly most of us are doing that way now.

**Homer Smith Operation.**

Homer Smith—the American Smith, in contrast with the India Smith—has advised a method of operating for cataract, leaving the capsule behind, which is superior far to the operation of making the opening in the capsule after you have made the corneal incision. Why is it superior? In the first place, you can open the capsule of the lens just like you want to do it, if the corneal cut has not been made. You can introduce the instrument with which you want to make the opening in the capsule, as if you were doing the secondary cataract operation, and can put the point of the knife-needle just where you want to put it, to make an incision in the capsule. Homer Smith's idea is to make a cross incision, one in the horizontal and one in the vertical, and to make it as far across the anterior surface as your instrument will reach, and make it as long up and down as your instrument will enable you to do without cutting the iris. That having been done—Smith's idea is a very good one, an exceedingly good

\*Address before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

idea—the aqueous humor gets into the inside of the capsule through the opening which you have made, and it so acts on the superficial layer of lens substance as to loosen it from the capsule, so that when the extraction effort is put forth a few hours later, the lens comes out almost in its entirety, leaving but little, if any, of its cortex behind. The Homer Smith operation, then, is an extraction of the lens, leaving the capsule behind, after having made the opening in the capsule several hours before. Now it is only six hours, while formerly it was twelve hours, and sometimes more. He has gotten down to six hours, largely due to a suggestion that I made to him personally one evening, after he had discussed his operation. I said: “Dr. Smith, if I were to do that capsulotomy in the evening, and I expected to do the extraction part of the operation the next morning, I am afraid I would not sleep much that night. The time you give for the action of the aqueous humor on the lens is rather longer than necessary.” Whether that had any weight with him or not, I find that he is doing the capsulotomy in the morning and the extraction in the afternoon, after the lapse of a period of about six hours. Of course after the six hours have elapsed, the lens may have swollen somewhat; but it is usually not much swollen, and one finds but little difficulty in making the corneal incision. If the lens has swollen a good deal the iris will be pushed forward, and the incision of the cornea through which you expect to extract the lens will be difficult. This is the only objection to the Smith operation, the difficulty of making the corneal incision for the extraction of the lens, provided the lens is swollen and has pushed the iris forward. Even then, an incision could be made in the cornea a little in advance of the usual place, and the healing would be uneventful. Usually the lens is not much swollen, and then it is as easy, six hours afterwards, to make the incision as it is to make it when no capsulotomy has previously been done.

Next to the Smith operation is one I am going to suggest now, that any of us can do without any risk at all in the doing of it—that is, make the capsulotomy a little while

before you are ready to operate for the extraction. How long before? Just long enough to let the aqueous chamber fill up again, for always a little of the aqueous will go out through the opening which you have made with the instrument for making the capsulotomy. Just as soon as you find that the aqueous chamber has again filled itself, having done the capsulotomy already, then make your incision, and an iridectomy, and then express the lens. That is the operation, either the Smith method or the method I have just outlined to you, that will save many a case from the necessity for the secondary cataract operation. In this way you can make your incision in the capsule large, and the crucial incision allows the angles to fold themselves out of the way, hence you are far less likely to have a secondary cataract.

### How to Deliver the Lens.

I think the least pressure we make on the outside of eyeball in delivering the lens, the safer the operation. The incision having been made, the capsulotomy having been done at the time the incision was made, or before, and the iridectomy done after the corneal incision has been made, if you do an iridectomy—how to deliver that lens with the least risk of damaging the eye is an important question. I have never seen an operator do this part of the operation as I have been doing it for many years, with the view of getting the lens out of the eye with the least possible pressure on the anterior segment of the eye. How is that possible? It is as simple as thought. The corneal incision having been made and everything ready for the delivery of the lens, I take the horn scoop or spoon, which I prefer to the rounded end of the strabismus hook, and make the pressure below, until the lens presents itself in the cut and is ready to emerge. As soon as the lens has emerged far enough through the opening I transfix it from behind with a cataract needle, and lift it out of the eye. The pressure is all suspended the very moment the transfixion has been done.

The delivery of the lens, leaving the capsule behind, is made with decidedly greater ease, and with considerably less risk of any



escape of the vitreous, if it is done as I have just outlined—namely, transfix the lens at the very first opportunity you have, and lift it out of the eye, removing all pressure at once.

I have probably spent too much time on this part of my subject, because nearly all of this is perfectly familiar to you.

### **The Extraction of the Lens in Its Capsule..**

I like to think of Swan Burnett—bless his memory! You, who did not know him well, have not the pleasure of thinking about him as those of us who did know him. In 1889, as I was coming home from the meeting of the American Medical Association, at Newport, I stopped in Washington. I went out to see Burnett, of whom I was very fond, and he said: "I want you to come with me to the hospital. I have some work to do this afternoon that I would like for you to see." And among the things that he did that afternoon was to extract a cataract. The capsule of the cataract, in the case he was operating on, had become so hardened that it was so tough his needle would not tear it—it was an old cataract with a tough capsule. He intended to operate and leave the capsule in, but in trying to tear the capsule, he failed. He knew he had entered the capsule, but did not know he had torn the lens loose from its ligamentous attachment until he had delivered it in its capsule. He said: "I would give a thousand dollars today if I knew how I did that, and how I might do it just that way on all other cases." It was an easy operation, but it would not have been done by him, accidentally, that day if the capsule had not been too tough to be torn by the instrument. The ligaments were not so strong but that they were easily broken loose. That was the first cataract-in-the-capsule operation I ever saw.

There are five methods of operating for the extraction of cataract in the capsule. The first of these is the Col. Smith operation. Only the method of delivery will be discussed. Smith's operation is a delivery of the lens in its capsule by main force and awkwardness by means of external pressure. I would not attempt the delivery of a cataract in its capsule by the Smith method for any consideration. You do not know whether it is going

to turn a somersault and come out bottom edge first or in some other way. The pressure on the eyeball essential for the delivery of the lens, tearing it bodily loose by external force, as a desirable procedure, is entirely beyond my comprehension.

There are four other methods of delivering the lens in its capsule. Let us see what those four ways are, as I have the instruments in my hands to show you. One of the instruments for effecting the tearing of the ligaments is what some of you know as the "lens detacher." I am not going to say to you that this is a perfectly safe and easy method to operate by, but I will say that it is far safer and far better than the Smith operation. This instrument is introduced through the corneal incision so that one of the two curves rests transversely on the lens below its center, while the other curve, exactly the curvature of the lens, rests vertically on one side or the other of the center of the lens. By means of a double shifting of this instrument you can tear the ligamentous connection of the lens loose without taking much risk of rupturing the hyaloid membrane. The one motion tilts the lens on its transverse axis, tearing the ligaments loose above and below; while the other tilts the lens on its vertical axis, tearing the ligaments loose on the two sides. Having used the instruments in this shifting way it is withdrawn. The subsequent delivery is done precisely as if you had made a capsulotomy. It may be that the point of the instrument, dull as it is, might rupture the capsule; if it does, you have an extra-capsular operation instead of an intra-capsular operation; that is all there is to it. As soon as the lens presents itself, with your needle ready in the other hand, transfix it from behind and above, and lift it out of the eye. There is no man in the world who has any claim to this operation except myself. Whether it will ever become an operation of universal adaptability, I do not know. I know it will not if the next method that I am going to refer to ever becomes so simplified that it can be used easily and safely.

### **Hulen's Operation.**

What is better than dislocating the lens by rotating it first on its transverse axis, and

then rotating it on its vertical axis, is to rotate it on its antero-posterior axis, by causing a wheel-like motion which will rupture all the ligaments. Can this be done? Yes. Three methods of doing it have already been devised.

This instrument which I hold in my hand is an effort on my part to simplify the Hulen device for gripping the lens by suction. Hulen, now of San Francisco, but then of Houston, Tex., devised the lens cup which he connected with an exhaust tank, the power of which was turned on after the cup had been passed through the incision and placed over the center of the cataract. The exhaust makes the cup grip the lens in its capsule, and enables the operator to make the wheel-like rotation for tearing the ligaments. Then with the same power the lens could be lifted out. The grip of his cup could not be loosened, even if some iris tissue had been caught. This is where my device comes in. Here is a little opening over which I keep my finger. When the exhaust is turned on and the lens is grasped, I can turn it loose, if I see the iris is caught. On raising my finger the air enters the cup and the grip is gone. After making the wheel-like rotation I can raise my finger and, removing the instrument, can press the lens out; or, continuing the grip of the cup, I may lift the cataract out of the eye. In its present form the apparatus is too clumsy for use.

#### **Stancleanu Operation.**

Here is an instrument which Simpson presented to us some years ago, by means of which the Stancleanu operation can be done. It is introduced through the opening, after the iridectomy has been done, and with it the capsule is grasped as I here grasp the skin on my finger. Then by rotating it, first one way, then the other way, on the antero-posterior axis, the ligaments are torn. The forceps grip may be continued for lifting the lens; or the grip may be loosened and the lens pressed out in the usual way. This operation is worthy of consideration.

#### **Kearney Operation.**

The last method is newest of all. The first publication of it was made in the January

issue of the Archives of Ophthalmology, this year. It consists of the use of a needle, through a cornea that has been cut or one that has not been cut, and passing it into the lens deep enough so that when it begins to rotate it on the antero-posterior axis it will not tear the capsule. If you rotate the lens far enough in either direction by the right or left wheel-motion, you have torn loose the ligaments. The ligaments are not very strong anyway. There are difficulties in doing this operation. Dr. J. A. Kearney, of New York, who devised this method, claims great things for it. He does this rotating after making the corneal incision. I have written him on this point, suggesting that the rotating needle be used before making the corneal incision, using the uncut cornea as a fulcrum. Then the incision could be made and lens delivered in the ordinary way.

The ideal operation is to take the cataract out in the capsule, and the ideal method is the one that will dislocate the lens in rotating it on its antero-posterior axis. I have been working my brain, in connection with Hulen and others, to devise a method that will effect the rotation on the antero-posterior axis, and if we can once get a safe and easy method we shall certainly be far advanced in the work of cataract operation.

#### **DISCUSSION.**

Dr. W. W. Potter, of Knoxville: Mr. Chairman and Gentlemen: I am certain we are all very grateful to Drs. Savage, Fagin and Peavler for this symposium.

I do not want to have very much to say in regard to Dr. Peavler's paper, because he covered his subject very carefully and very thoroughly, I think.

I was especially interested in Dr. Savage's remarks in regard to the removal of cataract, and the various methods. It is always very edifying to me to listen to Dr. Savage, because I kind of feel like I am coming to the fountain source of information when I hear him. I was very much interested in his remarks about the Smith operation. I do not mean the American Smith; I mean the English Smith. I know that Col. Smith, of India, has done more cataract operations than any other man in the world; I know that he has done a great many very successful operations—Smith intercapsular operations. We have Dr. Fisher, who has been with Dr. Smith,



and has also done a great many of these operations. I had the privilege once of seeing Dr. Fisher, after his return from India. He was a guest of ours. We had a clinic for him, and a number of cases were operated on by him. He was supposed to do, Dr. Savage, the intercapsular operation, but I want to say that out of eight cases he did this operation on, six of those cases had to be needled afterwards. He did not do the intercapsular operation; I mean by that, that he did not remove these cataracts entirely, capsule and all.

Personally, from what I can learn of the Smith-Fisher operation, we will call it, there are only one or two things that appealed to me in that operation—I mean in his technique. The first was his lid-hooks—Fisher's lid-hooks. In any cataract extraction I believe that if the lid-hooks are properly held by the assistant, you will find, as I have found, that they were much better than an ordinary eye-speculum. We know that nearly all patients with an eye speculum will squeeze and we are continually saying, "Don't squeeze!" But they will squeeze, anyhow, and do damage sometimes. But it has been my experience that with a trained assistant to hold these hooks, you have him where he cannot squeeze; and if you don't have an assistant that tries to help you too much, life I did just the other day, and let your lid-hook jump—and I have never seen as much vitreous lost in my lift as I lost there—you get along better. Fortunately, we did not lose too much, because the man had a good result. That operation that you speak of, of getting the lens up into the incision, then plunging the needle in and lifting it out gently and removing this pressure is a very good one. I want to say that I am glad to hear you speak of this "main force and awkwardness." A great number, anyhow, I will say, of the cataract extractions are done by main strength and awkwardness. I used to wonder, very often at a certain operator, world-renowned, the "daddy" of ophthalmology, Fuchs. A number of you perhaps have seen him operate. It looked like sometimes he was going to press everything out, tremendous pressure with his finger; he didn't use any instrument to gradually tease the lens out; he put his finger to it, pressed it with his thumb, and it looked like he would press everything out—the whole contents of the eye sometimes. Well, he got by with it. Of course if I were to do it that way, I would press all of it out. But this needle comes in handy for delivering the lens, and if another thing I like about the Smith-Fisher operation.

Fisher claims this needle as his own. The needle and the lid-hook, and the fact that he does not do the intercapsular operation in a large number of his cases are the three things that

impressed me most in this operation. I must say, however, that all those cases that he operated on at our hospital got fine results, for they were needled after that, the secondary operation. I did an intercapsular operation three or four months ago, just like you say Dr. Barnett did; that is the only one I have ever done. I did not do that intentionally. I had an accident that was very unusual, an accident that you very rarely see. That is, on the making of the incision, made the ordinary incision, as you said, with a little conjunctival flap, which I like very much. Immediately, without any teasing or without any pressure, without any touching, this lens promptly presented itself. It did not just peep out, but it jumped out, and following it a little head of vitreous. Well, what did I have? I didn't know what I had. I had never seen one jump out in my face like that, but in this case I determined that was nothing more nor less than a spasmodic contraction of the external ocular muscles, and that these muscles bodily picked the eye up and squeezed it. I don't know what else it could have done, but it was an intercapsular extraction. If we all do that, and get 20:30 vision, like we got in that one, I wish they would all do that way, but they do not.

Just a case I had the other day. I want to say in this cataract business, that it is impossible to tell what results you are going to get. I had a case the other day that I mentioned a minute ago, where the assistant unfortunately was paying too much attention to my work and not enough to his business, and let the lid-hook jump out. I lost more vitreous than I ever saw lost in an eye. The point is that in a great many cases you lose at tremendous amount of vitreous and still get away with it.

Dr. J. T. Herron, Jackson: In regard to extraction of the secondary capsule, since beginning the operative work, the more I operate on these cases the better I can deal with them. I feel that any ophthalmic surgeon, who is not afraid of so much loss of vitreous can do them, and yet can come out with a good eye. I just want to report a case here that I reported in Hattiesburg, Miss., several years ago before the Southern Medical Association; I don't know whether any of you were present but Drs. Savage and Price or not. It was a case of black cataract that was brought to mind by this young man having mentioned the loss of vitreous. The vision was nothing in one eye, and nil in the other—that is, with only light perception. I remarked to the patient that he had one chance in a thousand of seeing, and that if he wanted to take that chance, I would operate on him. He was not a desirable case. In fact, I never operated on a case like that before. I made the operation, and before I finished the cut with my



knife, the vitreous began to pour out. I went on and made the cut, and I scratched the capsule, and still the vitreous was pouring out. I found that it was impossible to deliver the lens. Every particle of the vitreous poured out, the ball collapsed, and I could not get hold of the cataract—that is, there was no pressure to use. I stood awhile, and injected some normal salt solution, and I would press again; “nothing doing.” Still the ball was collapsed, and my assistant said to me, “You would just as well close up that eye; it is lost.” I said, “No, I am going to take this lens out and give this man a chance, because if I don’t remove the lens he is doomed. Even though his eye fills up, his vision will be nothing.” I took a scoop and went down into the bottom of the ball, to scoop the lens out, capsule and all. I kept the man on the table for two hours, and injected normal salt solution quite a number of times, but after an hour’s time the ball was still collapsed. I placed him in bed, on his back, and closed the wound up. I went there the next morning, and he had had an enormous hemorrhage, vision only light perception, still the ball had protruded out and filled up nicely. I closed the eye up and dressed it, and the wound healed nicely. I dismissed him from my infirmary, I think it was about sixteen or seventeen days. Three weeks after that he called up one day, and said: “I can see the figures in the carpet at home.” I said, “Close your eye, and not use it; you might have a hemorrhage.” The next morning he had a fearful hemorrhage, and only perception of light. I kept his eye bandaged and closed, and used atropine, of course, and a short time after that the hemorrhage had cleared up, and that man now lives at Sharon, Tenn., and can see how to shoot a rifle. Even since that time I remember what Dr. Savage said, that if he hadn’t known me, he would not believe me. I have a record of that case, and have reported it. The man is now seeing, and that has been some time—I suppose ten years—ago. He was hopelessly blind before that in one eye, and almost in the other. He fell over the stool as I went to examine him.

Speaking of the loss of vitreous, I have never been afraid of the loss of vitreous since. I used to think that if you lost a little of the vitreous, you lost the eye; and it liked to have scared me to death to see the vitreous come; now I go ahead the same as if no vitreous had escaped. Hold your head, and to the operation. I do not do the operation as Dr. Savage said, because I don’t think I get enough of those operations to do to justify me. I do the Graefe operation, or the iridectomy, the preliminary iridectomy sometimes, and either one, I succeed in getting good results, and I do not use the little instrument that Dr. Savage spoke of in transfixing the lens; I take a horn spatula after I have made the in-

cision, also the iridectomy, and when I go to remove the lens, I use gentle pressure, the same as he does, then take the horn spatula, insert it in the bottom of the wound, and press the wound open as I press the lens up. If you have made your wound large enough, you can deliver your lens without any trouble. And the thing I used to do that I do not do now, I stand over and watch that eye, and if there is any of the cortex left, remove it, regardless of the escape of vitreous. I had bad results in the beginning y failure to remove the cortex. If you do fail to remove the cortex, you are liable to have an iritis, or iridocyclitis, or something of that kind, and have a secondary cataract to contend with afterwards. I made a report of one of my secondary cataract cases and I got the credit of being the original operator in that case. When the Southern Medical Association met in Birmingham, Ala., I made a report of a secondary cataract operation there in which I differed from any man that had been operating on those cases before, and that report is now in the Annals of the Southern Medical Association, which any of you can see. (Applause.)

Dr. J. P. Crawford, Nashville: Mr. Chairman, I want to agree with Dr. Herron as to the pressure on the lower margin of the wound for cataract extraction. Where your lens is a little larger than you expected it certainly does add very much in delivering the lens. I am sorry I did not hear the first paper on congenital cataract, for in the last ten years I have been boldly making an incision in all of these lens where we have the white and tough capsular cataract, or those cases that became so after one or more needlings with practically no further absorption. I make the usual cataract section, either up or down, as in my judgment will best serve my purpose and aims. Introduce a rat-tooth iris forcep, one devised by me, which gives me a better hold on the lens and capsule. After my section I grasp the lens and by a side to side and rotary motion tear the capsule from its ligamentous attachment and deliver the lens and capsule through my incision. I have operated on twelve or fifteen cases. I have yet to lose an eye, but have gotten in each case what could be considered a splendid result in this class of cases. I want to say that I believe that we have been too timid in dealing with the eye in these and similar operations. I have attempted extraction by this means in only one similar case in a woman in her seventy-second year. The capsule was torn from its ligamentous attachment, but all of the capsule was not delivered with the lens, as some of it caught between the lips of the wound and was afterwards grasped with the forceps and extracted. This patient got with correction 20-30 vision and real Snellin’s No. 2. As I stated before, I believe we have been too timid

and reluctant to depart from the old teaching on the eye. For my part, I don't hesitate, in these cases where repeated needlings do not produce absorption, to make section and remove capsule and lens with forceps. I sometimes do an iridectomy at the same time, while in other cases I do a simple extraction.

Dr. B. F. Travis, Chattanooga: Mr. Chairman, with regard to Dr. Peavler's paper, I have been in the habit of doing the needling method, and have no experience with the scissors, etc.

With regard to Dr. Fagin's case, with a small eye and heavy brow—if you meet with those cases you are going to have difficulty. I have had some, but I do not think as extensive as Dr. Fagin's. uBt if you have as small ball and a very prominent brow, you will have difficulty in delivering the lens.

And with regard to Dr. Savage's remarks, I was very much impressed with the Homer Smith procedure. Now, I have never done, or tried to do, the Smith operation, because I do not believe any man is justifiable in doing it unless he has seen a great many of them done before he even attempts it, and then he should go at it very carefully. My method of doing cataracts for a number of years, fifteen or eighteen, has been without iridectomy. I have been doing the simple operation—got it from Dr. Knapp—and I have had good results. I dilate the pupil thoroughly; I do not use the iridectomy—have not for a great many years. We all have our own experiences, and it is well for us to state them. Dr. Savage spoke of Dr. Burnett's accident, and by the way, Dr. Savage spoke of him in a very lovable way; he was a most lovable character, and a Tennessean, I believe. Last year I did a cataract operation in the hospital, and Dr. Frank Trester Smith, whom most of you know, was present. I dilated the pupil, and made my cut, picked up my keratome to rupture the capsule; as I was in the act of doing so, I saw the lens was slowly moving out; I gave it my full attention, and with the very least teasing, not attempting to rupture the capsule, it came out within the capsule. Just how I did it, I don't know, but, like Dr. Potter said, it came. I did not lose a drop of vitreous. I dressed it, and said to Dr. Smith: "There is the Smith operation without the Smith instruments; how I did it, I don't know, but it is done," and the results were good.

Now, while on the floor, if it is permissible, Mr. Chairman, Dr. Fagin spoke of a case of exophthalmos, and reported same in his remarks. I would like to report one myself, if it is in order. Last month I had a gentleman who came to me, who had just returned from the army—a young man, I think as fine-looking a physique as I ever saw. In fact, I had known him quite awhile. He had an exophthalmos. He came to

me on Tuesday. He did not seem to want to complain of any pain at all—he seemed to boast of not feeling a particle of pain, but there was an extensive exophthalmos. He said it began on him (that was Tuesday) slightly on Sunday; on Monday a little more protrusion, he said: by Tuesday it was extensive. I was nonplussed. I could not see anything wrong with the ophthalmoscope; everything seemed to be absolutely normal. His eye was pushed forward, considerably ecchymosed condition of the conjunctiva, and no pain. I was up against it; I did not know what it was, or what to do. I gave him a prescription, told him to go back to his room at the hotel, and to let me see him early the next morning, at 9 o'clock. This was late in the afternoon. The next morning he did not show up. I knew where he was working, or where he had been as work, so at lunch I went to his place of business, and as soon as I stepped in, a young man there said: "Doctor, we have been trying to get you and Dr. Horton; Mr. Reese is at the hotel—we have just got the message." They found him in his room unconscious. I don't know how long he had been unconscious. I went over there and found Dr. Reisman there. We sent him at once to the hospital. The doctor went over to the hospital. As I could not go then, I went back to the office and phoned the x-ray man at the hospital that the patient was on his way, and to be prepared to make an x-ray, also to examine him microscopically. He made an x-ray plate, examined the urine, and reported. I was over at the hospital late that afternoon. The urine contained albumen and granular casts, the blood showing nothing abnormal. He was still lying there in an unconscious condition. The next morning at 6 o'clock he died. He had no relatives there. We were unable to get a post mortem.

Dr. E. B. Cayce, of Nashville: Mr. Chairman, I did not get here in time to hear with paper, with apologies, but I believe that is a congenital condition. I believe it has been there all the time, and it happened to ulcerate, and I think it will not give further trouble. If it does not enlarge, it will be safe.

Dr. Louis Levy, Memphis: Mr. Chairman, when Dr. Fagin spoke of this case, he gave a history, and said that he had been puzzled with it. At the clinic I was frank to admit that I did not know what it was, but that I would go home and look it up. I went home, and I think I scared Dr. Fagin quite a bit, because in looking through my library the only thing that I could find in any way resembling it was the globular leprosy, spoke not in Greff's "External Diseases of the Eye." Specimens, however, were examined and nothing found, so that I am at a loss to make a diagnosis.



Dr. G. C. Savage: Mr. Chairman, in the first place, I will speak of the difficult cataract operation done by my confrere, Dr. Fagin. He did one thing that was wrong—I think it is wrong if any of the balance of you do it. He used a speculum, which should not be used at all in operating for a cataract. Use the lid elevator. Fisher has two or three different patterns. His old pattern I think is better than the hook patterns for lifting the upper lid. See to it that the assistant does not allow the upper lid ever to get close to the eyeball; then let the assistant with the fingers of the other hand draw the lower lid down, and if necessary pull the canthus over towards the temple.

Now, to fix the eye for making incisions in a cataract operations is important. The best way of all is to grasp the tendon of the internal rectus muscle, then you can hold the eyeball as firmly as you please. The puncture is easily made, because it is in the direction of fixation of the ball with the forceps; the counter-puncture is just as easily made, for the same reason. In holding the eyeball by grasping the tendon of the internal rectus muscle, let your hand be depressed a little, and the forceps will not be in the way of your knife at all.

The incision was mighty hard to make in that deep-set eye. I have had some of those cases, and I never liked them a bit. I don't use anything but a straight-handled knife; if I had an angle to the handle I would not know how to use it. I think I will stick to my straight knife.

Turning my attention to his case over here: I will ask the patient if he is a brother of the Mr. Cooper, of Mississippi, who was a Baptist preacher?

The Patient: No, sir.

Dr. Savage: I knew him—in fact, I know Baptist preachers all over the country.

That is not a congenital condition he has; it is not leprosy; it is a simple hypertrophy of the connective tissue of the fornix above and below. It has not existed always, I am sure. What to do for it? I should give him about five grains of iodid of potash, with a little bichloride of mercury, after each meal, and I would paint with iodine, either diluted or full strength, on the skin right over the fornix, both above and below.

Dr. Robert Fagin, Memphis: I have gone at it from every angle that I know, and I have quite a bit of literature, and I cannot find the portrait of anything in my books, or in the literature that I have access to, that resembles the condition in any way. At first, when I turned the lid, and saw the ulcerated area, and touched this ulcerated spot and it bled, I thought at first it was due to the ulcer, and that by healing the ulcer perhaps the growth itself would disappear, but I found that with a few applications of

silver, that the ulcer on both lids healed, and healed rapidly, and the growth remained the same. I have had several of the best men in Memphis to look at the case, too, and they have tried, but no one can make a suggestion that is helpful to me in arriving at the proper diagnosis. I do want and would like to have a diagnosis, after you have seen this case, and I will be glad that you will look at him again, to get an idea of it and take it home with you, and if you find anything I would be pleased that you would write me; if you find anything in literature that I might not happen to have, I would be glad to have you write me and let me know.

As to treatment, I am at a loss to know what to give, or what to do. I feel absolutely certain that it is not specific, and I feel equally certain that it is rather a new growth, that it has not been with him long; and I feel equally certain, too, that it is not a malignant growth, but that it is a benign condition. I see no reason why that all four lids should be affected with four malignant growths. If it was only on one lid, I would certainly be more suspicious. If you will look carefully, and look with a motive, as I have looked many times, you will see numbers of newly formed blood vessels. I have made a deep section into this, and cut off plenty of tissue, as much as the laboratory man wanted. I will read you what the report says about the growth:

"Tissue shows only a round cell infiltration with a small amount of polynuclear infiltration and slight congestion of the blood vessels."

I asked him if it meant anything; he said it did not.

Dr. G. M. Peavler, Bristol: I do not wish to say much in conclusion. Dr. Savage's report of the case of Dr. Swan Burnett's reminds me of an instance I had of a similar kind.

About two years ago I was extracting a cataract in the case of a very old man, probably eighty years of age. When I went to rupture the capsule it would not rupture; it was tough as in Dr. Burnett's case. I hardly knew what to do, but decided to take the cataract knife and cut the capsule peripherally as well as I could. I did so; the cataract slipped out easily, but I found after the extraction of the cataract that I still had a tough membrane in the pupil that cut off all vision; so I was tempted to take my iris forceps and draw out the membrane. The whole thing slipped out easily, leaving a clear, black pupil.

My conclusion is this: that in these old hypermature cataracts the peripheral attachment is very weak, and it takes very little pressure in such cases to separate the capsule from its attachment, hence such cataracts can be removed in capsule with less difficulty than cataracts of the ordinary type.



## SOME OF THE SURGICAL LESSONS OF THE WAR.\*

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In the life of but few medical men have such ghastly, horrible, suppurating wounds been seen as in the great war, that was so happily and victoriously concluded. Surgeons had perfected the antiseptic and aseptic prevention of suppuration, and to many the pestilential wounds of the pre-antiseptic period were unknown. In the very beginning the medical officers were confronted with a totally new experience—an almost unbelievable degree of septic wounds. To say that they were met successfully is a very great tribute to their ingenuity, skill and conscientiousness.

Perhaps the most striking surgical development of the war has been the Carrell-Dakin method of handling suppurating wounds. Its principle will live, whether the antiseptic solution is modified or not. It consists in the instillation at one or two-hour intervals of a given amount of fresh antiseptic fluid to the entire infected area without changing the dressings. The object is to obtain rapid destruction of the pathogenic microorganisms, and to keep an accurate chart of their bacteriologic count until they number less than one in a given field. When this is attained, wounds of great extent can be closed with assurance of successful union.

The neutral hypochlorite of soda (Dakin's solution) has been the one most extensively employed. It has been almost universally used by the French, and also by the American Expeditionary Force. I saw its administration in Evacuation Hospital No. 1, where it was almost the exclusive method of treating infected wounds. It had been used continuously there in a very large number of patients from the beginning until its close after the

armistice. The various surgeons and teams which were trained there carried its use to other centers, and it was also universally used by those of the medical corps, who learned its use here on this side in the courses established by the Surgeon-General at the Rockefeller Institute, which were presided over originally by Carrell himself. Tuffier, the dean of French surgery, is quoted as saying, "I can sterilize any wound by this treatment." Chutro, who had a clinic of three hundred military beds in Paris, asked for the worst cases that could possibly be sent to demonstrate its efficiency. The British Commission, which was sent to France to study this method, in their report say that in this clinic, and four other large military hospitals, they saw recognizable pus in only two cases. It was used there to the exclusion of all other antiseptics at all stages of the disease. In Tuffier's clinic there was displayed prominently in each of the wards this legend: "Tout blesse qui suppure a la droit d'en demander la raison a son chirurgien," which means, "All wounded who suppurate have the right to demand the reason of his surgeon."

Some objection has been urged against it, but this commission, after analyzing each of them, says that all objections are of small moment when compared with the proved advantages of the Carrel method of treatment. The British were the last to champion this method, as they had devised many treatments of their own, which were more or less satisfactory. Among them the antiseptic paste of Morrison, known as "Bipp," was very efficacious. It is composed of one part of the sublimate of bismuth to two parts of iodoform and a sufficient quantity of paraffin to make a soft paste. It is applied in a thin layer over the wound until it becomes clinically sterile when closure by suture was effected satisfactorily. As this communication is to call attention more especially to the newer principles which seem most probable of enduring the test of time, I will not go into the detail of any treatment. Indeed, the most important fact growing out of the management of war wounds is the increased interest which has resulted in the endeavor to conquer suppuration. The daily bacteriological

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count is a great and important step that should be perpetuated. Other chlorine preparations, such as dichloramine T, has had its advocates and has had a certain amount of usefulness. The principle, however, of continuous antiseptization and careful bacteriologic control as taught by Carrel is the essential thing in the conquest of septic wounds.

### **Traumatic Shock and Hemorrhage.**

The phenomenon of shock is still unexplained. It is as mysterious and elusive as ever, in spite of the great number of observations and experiments that have been made. Of one thing, however, we are sure, and that is the typically low blood pressure that always attends shock. This is associated with stagnation of blood in the capillaries and is recognized as exemia, "drained of blood." The blood in the capillaries differs from the blood in the vein by as much as two to two and a half million red blood cells per c. m. increase. This blood in the capillaries is really lost blood so far as the circulation is concerned and when real hemorrhage is added it is not returned to the heart in sufficient quantities and force to keep up the blood pressure. If the hemorrhage is severe the oxygen carrying power is defective and an increased amount of lactic acid is produced which unites with the sodium of the sodium bicarbonate in the blood and carbon dioxide is given off and decreases the alkali reserve, thus causing acidosis. The rapid pulse and rapid respiration increase as the acidosis increases and before death "air hunger" is a very conspicuous symptom. It can be relieved, however, very promptly by intravenous injections of three per cent solution of sodium bicarbonate, and the blood pressure can be thus restored to normal. If the blood pressure is reduced to seventy millimeters the alkali reserve falls; if it gets as low as sixty millimeters it falls still faster and acidosis becomes more grave, so that it may be said that a critical level of oxygen supply is reached when the blood pressure gets down to eighty millimeters of mercury. In fact, if the systolic pressure gets below ninety for longer than an hour and a half with no improvement after the administration of morphia to insure rest, and the use of warmth and

the free administration of fluids by mouth, by rectum and subcutaneously, whole blood should be transfused into the circulation. If the pulse gets as low as fifty or sixty, we should not wait on these resuscitating measures, but transfuse at once; and if that does not suffice there are some cases which are so grave that additional transfusion of five to seven hundred cc. of blood will have to be employed. We must, therefore, watch our cases of traumatic and post-operative shock very closely and use the blood pressure apparatus constantly. That is a very definite guide and is extremely accurate. In the shock rooms of the evacuation and other front line hospitals the application of artificial heat in a thorough and definite manner was the sheet anchor. Hot drinks, in other than abdominal injuries, and morphine were depended upon. Saline solution under the skin is helpful in mild cases. It is of little value in the veins, as it so rapidly oozes out. If the condition is grave enough to require intravenous injection, whole blood should be employed, if possible. In the absence Bayliss showed that six per cent solution of gum acacia in normal salt solution would add to the viscosity of the blood, remain in the capillaries, and raise the arterial blood pressure. It is not, of course, ideal, as one dislikes to introduce any foreign substance in the blood current, but it is preferable to letting the patient die, as we have so often seen, for the want of something that would permanently raise and maintain the blood pressure. In the transfusion of blood some simple apparatus, like the one devised by the army, should be employed. The main thing about transfusion is to stick to one method. It has been shown that the citrate method is the simplest. It is important that there should be no hemolysis between the donor and the recipient. If possible, donors should be selected and classified into the four groups of Mall in every community and in close touch with hospitals. With citrated sera of Groups II and III a small drop of blood from the patient's ear can be tested against this to show to which group the patient belongs. Then it is simple enough to choose a donor who belongs to the same known group. In the absence of the

the hemolysis test should be employed. By the interested and active utilization of these principles many cases of traumatic and post-operative shock and hemorrhage that have hitherto been lost, can be saved. If shock is allowed to continue, or continues in spite of intelligent efforts for a certain period, the damage resulting to organs and tissues is such that there is no recall.

### The Abdomen.

The war has not added anything strikingly new to the well known surgical principles in the treatment of gunshot wounds of the abdomen in civil practice. On the contrary, the very satisfactory experience of civil surgeons has been brought to bear in the war game and changed entirely the attitude of the military surgeons. It will be remembered that in the Spanish-American war the difficulties besetting operations near the firing line were so great and the results were so unsatisfactory that Senn and others issued the edict that no operations should be performed. The same practice was carried out in the Boer war, and to a less extent in the Balkan and Russo-Japanese wars. At the beginning of this war, however, the surgeons from civil life insisted on utilizing the same principle of early exploration and thorough operation in all cases where possible, and finally established this as the line of procedure. It has been established for many years that operations to be successful should occur approximately in the first eight hours. If it has been longer than twelve hours the mortality is very much higher, and if it is over twenty-four hours a successful issue is correspondingly decreased with the increase of the time. That does not mean that no patient after twenty-four hours should be operated upon, because it has been the experience of many surgeons to save patients by operation with gunshot wounds in the abdomen where thirty-six hours have elapsed. It is good surgery to operate in doubtful cases where the question of penetration cannot be definitely decided. If the patient is seen early, even in the absence of symptoms, it is better to "look and see" than to "wait and see." No irrigation should be employed. The advantages of washing out contaminated blood is coun-

terbalanced by the exposure of the intestine and the resulting shock. Likewise no drainage is employed in the sense that the loins or pelvis should be drained. Of course, as Colonel Wallace says, it is permissible to put a small drain near a suture line that is not trustworthy. He reported an experience of nine hundred and sixty-five cases, with a total mortality of 53.9 per cent. Considering the great severity of the type of injury, this result under the very trying circumstances of war is quite satisfactory. It, of course, is not to be compared to superior results obtained in civil practice where gunshot wounds are at once brought to hospitals, and operated upon early in good condition and under ideal environment.

### The Lung.

The most dramatic surprise of the surgery of the war is in the management of injuries to the lung. It is in direct contrast to civil practice. Bullet penetrations of the lung in civil life that do not die outright get well in the majority of instances. A war casualty usually contains infected foreign bodies, including projectiles, pieces of bone, clothing, etc., and the wound should be treated by excision of the infected and devitalized tracts in the lung just as it would be in the soft parts. Hitherto surgeons were very chary about opening the chest, except in empyema. The immediate mortality in thoracic wounds from trauma, shock and hemorrhage on the firing line was very great. In the front line hospitals 28 per cent of chest wounds in the battle of the Somme died. In wounds of the lung that were treated by *detriment* of the wound of entrance, cleaning the pleura with a light swab of ether and closure of the chest wounds only one in a hundred died from empyema where operation was immediate. We need not be afraid of the pneumo-thorax as formerly. It can be overcome when the patient is operated on under local anesthesia by requiring him to forcibly exhale while holding the nose. If under ether, after the closure of the chest wall is properly and completely made, the air may be aspirated. Even if this is not done it will disappear of itself in six or eight days. If empyema occurs after primary closure it can be dealt with sec-



ondarily. It seems almost uncanny to see a large thoracotomy wound held widely apart by retractors as an abdominal incision would be and the lung exteriorized, as the French call it, and drawn up carefully lobe by lobe, as one would lift up the liver in operating upon its deeper ducts. The foreign bodies can be palpated, incised and removed and the lung accurately sutured and replaced in the thorax. It is still a very grave procedure. In the most urgent cases at the front two-thirds were saved by Duval, even when they had severe hemorrhage and asphyxia. When those that were not urgent were included, the mortality was only 9 per cent. The total mortality rate, however, of lung wounds, based on upwards of three thousand cases, was about 20 per cent.

Empyema, as a sequel to broncho-pneumonia following measles and empyema as a post-influenzal complication, was the most serious thing that confronted the military, as well as civilian, practitioners during the war. While no great stride was made in its management, still it must be remembered that never before have we been confronted with such a virulent type of infection and such a large per cent of cases complicated with the streptococcus. One fact has been demonstrated—namely, the wisdom of late versus early operation in empyema. In many of the severe cases, death ensued in twenty-four hours and seventy-two hours, showing it to be largely a systemic affair that could not be benefited by simple aspiration or drainage of the pleural cavity. Cases that pursued a less flamboyant course were commonly tapped every second or sixth day, averaging three or four times, bringing the case to the end of the third week, when the sero-fibrinous fluid had changed into a frank creamy pus. Then thoracotomy under local anesthesia is attended with very satisfactory results. The advantage of antisepticising the pleural cavity by the Carrel method was brought out very strongly by the empyema commission, and also by the medical officers of the A. E. F. Never again will practitioners generally be backward about early needling of the pleural cavity in suspected empyema. The use of the x-ray has proved particularly efficacious.

In simple pleurisy, the shadow is S-shaped, but if there is consolidation it prevents a clear shadow. It is important that the patient be raised up on a back rest or some device for a few minutes to allow the fluid to gravitate to the bottom of the pleural cavity. The x-ray is not infallible. Nothing will ever take the place of the assiduous clinician who is constantly examining the chest. The late operations preceded by repeated aspirations gave 16.2 per cent mortality. The early operation not preceded by aspiration gives 61.2 per cent, whereas empyema not operated upon gave 86.4 per cent. Many excellent devices are used for the drainage of the pleural cavity. The double-barreled tube is very simple. Dakin's fluid by intermittent drainage by aspiration and instillation with a pair of bottles is better. A 14 F catheter inserted through a trocar and canula introduced between the ribs worked very well, particularly as the thick fluid can be dissolved by Dakin's solution and thus do away with the impediment of drainage that we formerly obtained without the use of this simple method. The old principle of slowness of the evacuation of fluid was demonstrated in the recent epidemic. With the improved method the persistence of sinuses was shortened and many cases were closed after sterilization with Dakin's solution at the end of fourteen days. The old obliterating operations, like the Eslander and the Schede, have been done away with.

### Joints.

One of the most important lessons growing out of the war is the improved results in wounds and injuries of the knee by immediate mobilization. It is just the opposite of the systematic immobilization that we practiced in civil life for so many years with so many ankylosed joints as the result. We are indebted to Willems, who had charge of the Belgian military hospital at Bourbourg, for this lesson. He begins moving the joint as soon as the patient comes out from the anesthetic. It must be extended and flexed to the maximum, and it should not be supplemented by passive motion. In shell wounds he follows out the usual practice of excision of the injured and infected soft parts down to the capsule of the joint, cleanses the joint

carefully with ether after removing all foreign bodies, and if it is perfectly aseptic, closes it and then begins mobilization. I had the opportunity of seeing a number of cases treated in this fashion near the front line that were very satisfactory. These men were up and about in a few days, using their legs or joints freely. At first the patient is given a jointed Thomas splint and after walking on that for several days it is taken away and he uses only a cane. Cases where parts of both cartilages were destroyed, but where the crucial ligament was still intact and as much as half of the articular surface preserved, were restored with resection. When injuries were not too extensive they were given a trial before resection was resorted to.

The principle of mobilization is most useful in purulent arthritis. The pus is evacuated by a bilateral arthrotomy with immediate motion of the joint, which causes the pus to be expressed and makes the drainage very complete. One can actually see the pus exude as the joint is moved, and it is then realized that after all it is most complete, and the only way of adequately draining a joint. Irrigation is done away with and it is unnecessary. Pain and temperature rapidly subside. As soon as the secretion begins to dry up, and the joint is limited somewhat in motion, the wound should be at least partially closed. The large joint, like the knee, gives the best result, the elbow next. Of course the small joints, like the wrist and ankle, are not so satisfactory. In a hundred knee cases treated by Willems, eighteen of which were associated with pus in the joint of a streptococcus type, there were no deaths and no amputations and only two stiff joints resulted, in one of which the ligaments were gone and the popliteal artery was thrombosed. This principle is going to be permanently utilized in joint surgery and infections of the larger joints.

#### **Amputations.**

It is probable that over 400,000 arms and legs have been amputated in the war. It has been impressed upon all that the longest possible stump for leverage be made, no matter at what point the amputation must be. Inasmuch as most of the wounds were infected,

the circular method was employed and really is preferable to the flap as far as the wearing of apparatus is concerned. In civil practice we have permitted too much time to elapse before the man is gotten up and about. In the future as a result of military surgery we will insist on our patient beginning to move the leg or arm, while healing is taking place. In thigh amputations the member must be taken off of the pillow two or three times a day so that no contractures can occur. As soon as the wound is healed massage is used, followed by proper exercising, baths, movement, etc. When the patient is able to leave his bed, some simple weight-bearing apparatus, like a plaster paris cast of the stump attached to two metal rods, is put on and the patient taught to walk. In this way crutches are done away with, and the morale is improved. Instead of a long invalidism and many months of loss of time, incapacity for work is greatly shortened and re-education is begun promptly. The net gain to this improved plan of handling amputations is very practical in industrial surgery.

The Guillotine amputation, when the member is simply cut off without any effort at flap formation and the bone sawn flush with the soft parts, was extensively employed in septic cases to minimize the area of the cut surface, but was long and tedious to heal, and should never be used in civil practice.

I cannot do justice to the importance of the subject of plastic surgery where the most appalling defects, like the destruction of the lower portion of the jaw, have been restored by co-operation of the dental surgeon with his splints and the skill of the plastic surgeon. Likewise, the severe mutilations of the face and nose and mouth have been an inspiration for the most delicate restoration. Moreover, the surgery of the peripheral nervous system is going to be almost rewritten; with over 1,700 peripheral nerve injuries which are being handled at the present time by our medical corps some lessons for the future must be learned.

The vascular system, too, has had its share of trauma, and while in military surgery ligation was employed rather than suture, at the same time many of the more chronic defects,



like arterio-venous aneurism, will be cared for by arterial and venous suture.

### Fractures.

Fractures from battle casualties are nearly all compound. Surgeons had the opportunity to master the technique of the Thomas splint. It is the ideal apparatus for transportation and as a permanent dressing allows traction and alignment to be kept up perfectly and the wound of the soft parts gotten at easily for dressing. (A moving picture of the minute application and versatility of the Thomas splint was here shown.)

The Blake splint is a distinct addition to the surgical armamentarium. The Balkan frame is a splendid means of suspending limbs and providing for traction. It adds greatly to the comfort of the patient and has many very accurate adjustments and can be made by any carpenter from designs furnished by the Surgeon-General's office. It can be applied to any and all fractures requiring confinement to bed, and has its greatest usefulness in compound fractures and in multiple injuries. Used in connection with a portable x-ray apparatus, the management of fractures becomes a most exact and satisfactory experience.

## VALUE OF A CLINICAL LABORATORY IN DIAGNOSIS.\*

By Roy E. Yates, M. D.,  
Paris.

It would, of course, be impossible, in an article of this kind, to discuss thoroughly all diseases and conditions and every test connected with them, but a brief survey will be attempted of the more common, every-day cases and indications. The simple fact that any recognized practitioner of today will not attempt to carry out his work without the facilities afforded by a laboratory is accepted by all, and means that such assistance in diagnosis is invaluable and indispensable. Research has proven that laboratory findings are of more or less aid in 97 per cent of the conditions encountered in the practitioner's

patients. The findings of value in a laboratory can usually be sifted down to three things: Positive or negative findings in a suspected condition, or elimination of possible conditions in a diagnosis or in complications.

The urine, the most important factor in diagnosing numerous conditions, is the most neglected. Edward L. Keyes, Professor of Urology at Cornell University Medical College, and Urologist to the Bellevue Hospital, New York, says: "The foundation of urology is urinalysis, and without aid of this art as practiced in the laboratory, no man may expect to diagnose diseases of the urinary system." A properly made analysis of the urine will furnish an enormous amount of valuable information concerning body metabolism and the diagnosis and prognosis of both renal and other diseases. Most physicians are aware of this, too, yet only the leading and most successful take advantage of the revelations offered by analyses. The urine is a study in itself, and to cover the most important points about it in the briefest manner would require entirely too much time, so only the most important constituents of the urine, and variations in the quantity of which may indicate disease, will be considered.

As we know, urinary constituents are either organic or inorganic, but we will discuss them as they come to mind, and not in the proper order and classification in which they belong. Urea is the most important nitrogenous constituent. It is of clinical significance, since it, to a large extent, represents the nitrogenous katabolism of the body. Under normal conditions it represents about 85 per cent of the total nitrogen eliminated by the kidneys, and the normal daily amount to be excreted is from 25 to 35 grammes. Urea is increased in fever, diabetes, excessive bodily exercise, and is diminished in uremia and kidney diseases with impaired excretory power, and in liver diseases, such as cirrhosis.

Uric acid is an invaluable indicator in conditions of leukocytosis or in cases of tissue breaking down. It is diminished in leukopænia and anaemic conditions.

An increase of indican is a great indicator of bacterial putrefaction in the intestines.

\*Read before Henry County Medical Society.



The phosphates-sodium, potassium and calcium should be regarded closely, especially in pathological conditions. The normal amount varies between 2.5 to 3.5 grammes daily. The larger portion of phosphates is derived from the katabolism of body tissue, muscle cell, bone, nerve cell and blood corpuscles.

Oxalic acid is increased in gastro-intestinal disturbances, diabetes, and in some cases of albuminuria. The frequent presence of calcium oxalate crystals in the urine of an individual should lead to the suspicion that it may be deposited within the bladder, and thus cause the formation of calculus.

As a result of disease of the genito-urinary system, or of local or general disease in other parts of the body, or of deterred metabolism, any of the above mentioned constituents may be increased or diminished. More important than this, however, is the occurrence of additional pathological substances, some of which are as follows:

1. Proteids: serum-albumin, serum-globulin and albumose.

2. Carbohydrates: glucose, lactose, maltose. (It must be remembered that normal urine contains a trace of glucose, but it is barely enough to respond to the most delicate tests, and not enough to interfere with any clinical tests.)

3. Acetone.

4. Ammonia.

5. Bile, bilirubin and bile salts.

6. Blood and its constituents.

7. Pus cells.

8. Casts and cylindroids.

9. Spermatozoa.

10. Epithelium.

11. Clap and mucous threads.

12. Tissue debris, floating particles, etc.

13. Crystals of normal and abnormal substances, amorphous debris and calculi.

14. Parasites, vegetable and animal.

The definition of these conditions in the urine is dependent upon laboratory methods which further emphasize the importance of making use of the laboratory in considering the urine as a route to diagnosis.

Too much cannot be said of the information gained by making use of the laboratory

in cases of anaemia: Absolute and differential counts of the blood, hemoglobin tests and microscopic pictures of the blood.

Bronchitis: Pus cells in the sputum and its mucoid or mucopurulent appearance.

Amebic dysentery: *Entameba histolytica* in pus from the feces and abscesses.

Animal parasites: Blood picture of eosinophilia and parasites.

Conjunctivitis: Bacteria in discharges:

Appendicitis: Absolute and differential leukocyte count of the blood.

Gonorrhea: Bacteria in pus and urine, and pus and shreds in the urine.

Leprosy; Bacteria from nodules.

Bronchiectasis: Tris sedimentation, pus cells and fatty acid crystals in sputum.

Asthma: Blood picture from eosinophilia and eosinophilic leukocytes in sputum, Churchman's spirals, Charcot-Leyden crystals.

Cancer: In general; tissue examination; of stomach, gastric contents for absence of free HCl increase of lactic acid, occult blood in stomach contents and in feces; of kidney, hematuria.

Cystitis: Chemical examination of urine, also examination of urine bacteria and pus.

Diabetes: Examination of urine for sugar and acetone.

Diphtheria: Smear and culture for bacteria.

Endocarditis: Leukocyte count and bacteria in blood.

Filariasis: Parasites in the blood and differential counts.

Influenza: Bacteria in the sputum.

Leukemia: Absolute and differential leukocyte count.

Malaria: Special stain for plasmodium.

Measles: Leukocyte count.

Meningitis: Absolute and differential leukocyte count of blood and study of bacteria and differential cell count of spinal fluid.

Otitis media and mastoiditis: Bacteriological examination of discharge.

Nephritis: Chemical examination of urine for albumin and microscopical examination of urine for casts, etc.

Septic infection: Absolute and differential counts, bacteriological examination of blood, also bacteriological examination of pus.

Tetanus: Smear for specific bacteria in discharge.

Pyelitis: Urine examination for pus, bacteria and occult blood.

Typhoid fever: Microscopic and macroscopic Widal test and blood examination for bacteria.

Vincent's angina: Bacteriological examination for exudate.

Tuberculosis: T. B. examination of sputum, lymphocytosis in blood and tuberculin reaction.

Pneumonia: Bacteriological examination of sputum, differential leukocyte count and examination of chlorides in urine.

Trichinosis: Examination of feces for parasites and the muscle tissue for trichinilla embryos encysted.

Syphilis: Smear for specific bacteria in primary lesion, Wasserman test and Noguchi's test of the cerebro-spinal fluid.

One of the greatest laboratory tests discovered in recent years is the Schick test, for determining immunity to diphtheria infection. The discovery of this test makes it no longer necessary to give the prophylactic injection of diphtheria antitoxins to all those exposed or likely to be exposed to diphtheria, as it has been shown that many persons do not contract diphtheria, even from what may be regarded as abundant exposure. The determination of this immunity dates from the work of B. Schick in 1913, since which time a large amount of clinical evidence has been accumulated to demonstrate without question that the Schick test should be applied to all persons who have been exposed to diphtheria, and that only those who react positively should be given the antitoxin. Abraham Zingher reports in the American Medical Association Journal, for April, 1915, an examination of 1,300 scarlet fever cases, of which 700 gave negative reactions. Not one of these negatives developed clinical diphtheria, although none were given immunizing doses of antitoxin, and all were constantly exposed in the wards to cases of diphtheria.

Another laboratory test that all surgeons should use before doing blood transfusion is that of determining the hemolytic relationship between the recipient's and donor's blood.

Abderhalden's anaphylactic reaction should interest all members of the profession, in that it is proof of pregnancy in its positive reaction. The principle of this test lies in the fact that whenever a foreign proteid is introduced into the circulation, the tissue reacts with the production of a ferment possessing the power of disintegrating this proteid. The proteids of the placenta act as foreign proteids and cause the appearance in the blood of the pregnant woman of ferments able to disintegrate them. If placental extract is mixed with ordinary blood serum, no change takes place. If the blood serum was, however, obtained from a pregnant woman, the placental proteids are disintegrated with the formation of peptones.

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## TREATMENT OF DRUG ADDICTION.

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By Arthur D. Greenfield,  
Attorney and Counselor at Law.

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It is not the function of the Public Health Service to pass upon the merits of the various methods of treating narcotic drug addiction, but in view of the recent decisions of the United States Supreme Court, a digest of which has been published in Public Health Reports,\* it seems desirable that the medical

profession should be advised at least to the extent of aiding its members to determine what does and what does not constitute legitimate professional practice. The court having decided that narcotic drugs may not be prescribed or dispensed to an addict except for the purpose of cure, and one of the recognized methods of curative treatment being the reduction method, which consists in tapering off the dosage until the patient is "off the drug," while various other methods involve the maintenance of a certain dosage

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\*Public Health Reports, Vol. 34, No. 22, May 30, 1919, pp. 1195-1197.

during a period in which the patient is prepared, by other medication, for abrupt or rapid withdrawal, it is important that physicians should understand to what extent and in what manner the legitimacy of these curative treatments is affected by the recent court rulings.

For this purpose, all methods of curative treatment may be divided into two broad classes—the “ambulatory” and the “institutional.” The ambulatory treatment may be defined, for the present purpose, as any treatment in which narcotic drugs are prescribed or dispensed to a patient for self-administration by the patient, so that he has control and possession of the drugs, and is physically free to use them in any manner he desires, regardless of the physician’s instructions. The institutional treatment may be defined, for the present purpose, as any treatment in which narcotic drugs, if used at all, are administered by a physician or by a nurse under a physician’s direction.

One of the purposes of the Harrison law, as declared by the Supreme Court in the *Doremus* case, was to prevent the possibility of narcotic drugs being illegally disposed of without payment of the tax and without the use of order forms. Obviously, the use of narcotic drugs under the institutional treatment fully precludes this illegal disposition, while their use under the conditions of the ambulatory treatment, as above defined, clearly facilitates it. The latter form of treatment readily lends itself to abuse by unscrupulous physicians who merely make a pretense of cure, and most of the successful prosecutions of physicians for illegitimate practice under the Harrison laws have been in cases where the physician professed to be using the ambulatory reduction treatment for the purpose of cure.

Investigations have been made of the merits of the ambulatory treatment from the medical standpoint, and it is found that genuine cures have rarely been effected by it. Competent authorities, therefore, feel justified in advising against the use of this so-called method of curative treatment. In so far as the question of legitimacy of medical practice in the treatment of drug addiction depends

on the presence or absence of professional good faith, the physician using this method must realize that he places himself in the power of his patients, and that his good faith becomes, to a great extent, dependent upon theirs. Reputable physicians cannot afford to run this risk, except, possibly, in a few rare and exceptional cases. Among the medical objections to the ambulatory treatment are the facts that hypodermic administration by the patient often leads to serious abscesses through lack of sufficient sterilization; that for the same reason, and through common use of a needle by several patients, syphilis and other communicable diseases are occasionally transmitted; and that this method does not give the physician an opportunity to control the amount administered at each dose and the intervals between doses, and thus determine the minimum physiological requirements of the patient.

In order to avoid misunderstanding, two points require mention. One is that by the phrase “narcotic drugs,” as used in the foregoing paragraphs, is meant only opium, coca leaves, or any compound, manufacture, salt, derivative or preparation thereof, since these are the drugs with which the Harrison law deals. The other point is that nothing in the recent court decisions affects the right of physicians to use these drugs in the treatment of disease or pathological conditions other than drug addiction, including the alleviation of pain. If drug addiction becomes necessarily incidental to such treatment, its continuance is legitimate, so long as conditions exist which medically justify it. Addicts may thus be divided into two classes, the legitimate and the illegitimate. As to the former class the rights and duties of physicians are well expressed in an article in the *Weekly Bulletin* of the New York City Health Department of May 3, 1919, from which we quote the following:

“Every physician must feel free to treat such cases in accordance with his own professional conscience and judgment, and no reputable physician should hesitate to do so. In this, as in all cases with which a physician has to deal, it is his duty to seek the underlying cause of the patient’s condition, and



direct his treatment to the elimination of that, wherever practicable, rather than to the alleviation of symptoms; many cases of drug addiction owe their origin to professional carelessness in this respect. But where it is not possible to remove the cause, and where its continuance renders necessary or desirable, in the practitioner's honest judgment, the use of morphine, or other narcotic, he need not fear getting into legal difficulties by continuing its use, even though the patient be an addict. In fact, it is highly desirable that patients of this class be freely treated by reputable physicians, rather than be compelled to rely on questionable sources for the relief to which they are rightfully entitled."—U. S. Public Health Reports, July 18, 1919.

### VENEREAL DISEASES.

#### Nebraska Supreme Court Decides That Local Health Authorities Can Quarantine Infected Persons.

The Supreme Court of Nebraska, in a recent case,\* upholds the right of local health authorities to quarantine a person infected with a venereal disease.

A woman was arrested and upon examination was found to be infected with a venereal disease. The health commissioner of Omaha ordered her to be detained in the detention home of the city for treatment until there was no further danger of communicating the disease. In a habeas corpus proceeding to secure her release from quarantine the court upheld the action of the health commissioner and denied the writ. In the opinion it was said:

\* \* \* In this case the stipulation shows that the petitioner was "found to be infected with communicable venereal virus," and that she was only detained "for such reasonable time and in such reasonable manner as to prevent the danger of said petitioner from communicating such infection to others and until the danger of the infection should be removed." There can be no doubt that under our statute (Rev. St., 1913, Secs. 4082, 4094) the city could by ordinance provide

for such detention, and the ordinance as quoted in the petitioner's brief provides for such detention.

### TO FIGHT INFLUENZA.

Whereas, the present influenza epidemic caused approximately 500,000 deaths in the United States; and

Whereas, a large proportion of these deaths were produced by pneumonia and other complications; and

Whereas, influenza, pneumonia, and allied diseases now cause approximately one-tenth of all the deaths in the United States; and

Whereas, medical science is not yet in possession of complete data as to the cause, modes of transmission, prevention, and cure of this disease and its complications; and

Whereas, the possession of this knowledge is of grave social and economic concern to the nation;

Therefore be it resolved, that it is the sense of the members of the Section on Industrial Medicine and Surgery of the American Medical Association, here assembled to discuss influenza, that Congress should and is hereby urged to appropriate not less than \$1,500,000 to be used under the direction of the U. S. Public Health Service for the investigation of the causes, modes of transmission, prevention and cure of influenza, pneumonia, and allied diseases, this sum to be made available to July 1, 1922.

Transmitted by order of the session, held in Atlantic City, June 13, 1919.

DR. OTTO P. GEIER, Secretary.  
Cincinnati, Ohio.

What do you know for the good of the cause? Send it to the Journal. Write on one side of the paper and double space the lines.

If you, the doctor in your community, who should set the example for your community, will put your own premises—home and office—in good sanitary condition and so maintain it, others in the community will follow your lead. Try it out.

\*Ex parte Brown, 172 N. W., 522.

**THE JOURNAL**

OF THE

**TENNESSEE STATE MEDICAL ASSOCIATION**

Devoted to the Interests of the Medical Profession of Tennessee

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AUGUST, 1919

**EDITORIALS****WHY IS IT SO?**

It appears to be true that very few of our present-day graduates in medicine are at all willing to locate for the practice of their profession outside of our cities or relatively large centers of population. Even young men who acknowledge themselves to be as poor as the proverbial church mouse are disinclined, or positively refuse to consider locations in the country, though they may there get into remunerative work at once and may soon make secure a larger income than they can hope to enjoy within a much longer period of time in a town or city.

The writer has been approached within the recent past by at least a dozen young men seeking information concerning desirable locations. When we have suggested country locations, these interviews, with a single exception, have come to an end as soon as we would permit them to end. Some of the young gentlemen have refused to give definite reasons for their unwillingness to start in country practice, but most of them have very frankly stated their reasons after a little urging, though in no case has one explained fully just why he has come to assume his attitude about the matter. One or two frankly stated that their objection to country practice is that it involves too much hard work. These two we have put down as preordained failures, no matter where they go. One will say that he dreads isolation; another, that he fears he will "get into a rut" and will fail to keep up with the progress of scientific medicine; and various other reasons are offered, some of which are sensible and some of which are silly.

The one outstanding objection offered by these young doctors against the country location, however, has been this: "I want to do surgery, and I can't do it in the country."

Just why is it that practically all of our graduates in medicine are so determinedly bent upon surgery and so positively disinclined to enter upon the practice of general medicine? Is it because our courses of study in medical schools are so thoroughly overbalanced on the surgery-teaching side? Is it because they are being taught that there is nothing positive or curative except applied surgery? Is it because we have teachers of surgery who can inspire young men and teachers of medicine who cannot?

There was a time when Johns Hopkins meant Osler, Pennsylvania meant Pepper and Wood, New York meant Flint, and when the outstanding figure in every medical faculty of school or city was a man who practiced medicine and did little or no surgery. Has that time gone forever, and is it a fact that the specialist and the surgeon who does not, or who pretends that he does not do any general practice will always hereafter be the individual from whom the medical student and young physician will draw inspiration and receive impressions which will determine the course of his professional life?

Our institutions, aside from medical schools, are practically all under the direction of surgeons. The chief of staff in every hospital is a surgeon, even though a large part of the hospital is filled with beds for medical cases. The truth is that it is getting hard for any patient not surgical to get decent attention in most hospitals. The staff, the internes, the nurses, and even the orderlies want to come into contact, it seems, only with surgical cases. The surgical clinic is overrun with visitors, the medical clinic is deserted except as attendance is enforced. The surgical side of the hospital is stressed by all the associations and "colleges" and organizations which have taken upon themselves the task of "regulating" and classifying hospitals. Every little town is building or getting ready to build a hospital so that surgery can be done at home.

Are our teachers of medicine incapable, impractical, unable to demonstrate the value of

medicine? Are our "internists" and general practitioners failures? Is there nothing worth while in medicine except through surgery?

Oh, for an Osler or two, if two there could be, to demonstrate the possibilities for real service and for real scientific and beneficial work in the field of general medicine!

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### DOCTOR WILLIAM OSLER.

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Sir William Osler, if you please, but we prefer Doctor William Osler, for we know that he has been and is a better doctor than he will ever be a "sir," even though he fulfill to the last extreme all the requirements of sirdom and knighthood, which most assuredly he does.

On July 12, 1919, Dr. William Osler was seventy years old. Rarely has it been given to a man to be honored by his fellows in a common field of service as he has been, and no man has more richly deserved honors than has he. His place at the top has been fairly won. Hard work, an everlasting spirit of fairness to his fellow man, a never-ending helpful interest in his students, a reverence for truth and a hatred of all that is false, a determined aversion to all that is narrow, have characterized his whole life and his devotion to these principles has made him what he is.

His three "personal ideals" were thus stated by him at the farewell dinner tendered him at New York when he went to England to accept the Regius professorship of medicine in Oxford University. We quote from an editorial in the *Journal of the A. M. A.*:

"I have had three personal ideals: One to do the day's work well and not to bother about tomorrow. You may say that is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it well to the best of my ability, and letting the future take care of itself.

"The second ideal has been to act the Golden Rule, as far as in me lay, toward my

professional brethren and toward the patients committed to my care.

"And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man."

His ideals have been adhered to and his ambition in connection with his ideals has been fully realized. That is why he is honored as he is today.

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### DISTINGUISHED PROFITEERING.

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Nearly two years ago the State Board of Health entered into a contract with E. R. Squibb & Sons, under the terms of which this firm agreed to place on sale, at greatly reduced prices, in every town of 500 or more, diphtheria and tetanus antitoxins and typhoid and smallpox vaccines. Druggists in most towns—one or more of them in each town—seemed anxious to have these products and most of them exhibited a desire to help the State Board of Health put these most valuable aids for the prevention and cure of disease within the reach of the average citizen. It was not long, however, until reports began to come to the State Board of Health that druggists, here and there, were charging far more for the State Board of Health Squibb's products than the agreed prices. The last complaint of this kind came from Pulaski.

Can any one cite us to an example of more shameless and dirty profiteering than that engaged in by the druggist who, for the sake of a few dollars, deliberately takes a mean advantage of a poor man whose child is threatened with death by diphtheria? Or who will interfere with the efforts of physicians and public health departments to prevent typhoid fever by doubling the price of vaccine?

We print below the prices which should be charged for the State Board of Health Squibb antitoxins and vaccines. Any druggist who charges more than the prices here stated is guilty of profiteering distinguished by meanness and stinginess and selfishness.



The State Board of Health will be glad to have conclusive evidence concerning any sale of the vaccines and antitoxins above referred to at prices greater than those given below.

The facts will be published and the profiteers will be exposed.

#### Diphtheria Antitoxin Squibb.

	Price.
1,000 units package -----	\$ .48
3,000 units package -----	1.32
5,000 units package -----	1.88
10,000 units package -----	3.60

#### Tetanus Antitoxin Squibb.

1,500 units package -----	\$1.67
3,000 units package -----	2.87
5,000 units package -----	4.00

#### Typhoid Vaccine Squibb.

1 Immunization treatment in syringes-----	\$ .80
1 Immunization treatment in ampuls-----	.28
10 Immunization treatm'ts in ampuls (Hos.)	2.00

#### Smallpox Vaccine Squibb.

Packages of 10 capillary tubes -----	\$ .80
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These products are prepared by the E. R. Squibb Sons Research and Biological Laboratories, New Brunswick, N. J., and are guaranteed under U. S. Government License No. 52. „

### “ACCEPTED BY THE COUNCIL OF PHARMACY AND CHEMISTRY.”

The Council on Pharmacy and Chemistry of the American Medical Association is a department of our national organization that has not received the plaudits and encomiums of a wildly joyous medical profession nor the grateful praises of the enthusiastic manufacturer of pharmaceuticals. The council seems indeed to be the unloved child of the entire family of subsidiary bodies of the association. Perhaps the reason for this may be found in the character of its duties, for the council must expose fraud, sometimes in high places, and protect the physician from being duped by avaricious persons and by persons who are themselves sometimes the victims of their own credulity. It thus happens that the sale of some proprietary article previously held in high esteem by the practitioner proves valueless, perhaps even fraudulent. The practitioner, however, may have credited much of his success in treating certain conditions to that preparation and the maker has had success in accumulating dollars from its sale, and both parties emit a loud and vicious roar

against the council, because they both lose money. Nobody wants to be “protected” against making money—make it honestly, if possible, but make it—but this black sheep among the Councils of the American Medical Association insists on their making their money honestly!

Despite many obstacles thrown into its path, the Council on Pharmacy and Chemistry has serenely pursued its allotted tasks, corrected its mistakes, improved its methods, and today stands at the only medium to which the honest physician may turn for information—not misinformation—regarding proprietary articles. During the war the council and the chemical laboratory were in close co-operation with the Surgeon-General's office, testing and investigating every article offered to the government for the treatment of the sick soldiers. The variety and the number of fakish and fraudulent stuff offered to the Surgeon-General was a pitiable exhibit of the mental gymnastics of some people. Just now the council and the laboratory have a new and important field before them—i. e., to protect the physicians against worthless and useless serums, vaccines and synthetics. It will be the council's unpleasant duty to expose the fraudulent and useless among these articles and stamp truth on those found worthy.

We seem to have wandered from the topic in our caption, but not so in reality, because the burden of our thought is to lend our influence to the spread of the motto of the Advertising Clubs of the World—namely, “Truth in Advertising.” It is our purpose to stimulate a larger degree of enthusiasm for the work of the Council on Pharmacy and Chemistry and the Chemical Laboratory, a more generous flow of inquiries concerning articles unfamiliar to the physician, and particularly to urge that the words “Accepted by the Council on Pharmacy and Chemistry of the American Medical Association” be printed on the label and on all advertising circulars of proprietary articles that have been admitted to New and Nonofficial Remedies. Then, when pamphlets and circulars are received by physicians they will read the statements of manufacturers with sympathetic un-

derstanding and with full confidence in the verity of the declarations. The importance of creating just that sort of receptivity in the mind of the prospective buyer is so well known to the astute publicity expert that it is needless for us to dwell on its advantages. Every proprietary article advertised in our Journal, in the Journal of the American Medical Association, and in the other state association journals, as well as in several well edited privately owned journals, does in effect say to the reader that the articles so advertised are accepted by the council because only proprietary articles so accepted are accepted by us. The fact is further acknowledged when these firms are permitted to exhibit their goods at our annual session, for again the rule is enforced that only proprietary articles which have been approved by the council may be placed on display.

Why not complete the circle of ideas—it would not be a “vicious circle”—by printing on labels, in advertisements and circulars, the words, “Accepted by the Council on Pharmacy and Chemistry?”—Journal Missouri State Medical Association.

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### OBSERVATION AND HEARSAY ACCU- SATIONS.

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To say that I have been surprised by some of the ways and means to get patients, and to get other fellows' patients, that are used by men who are licensed to practice medicine and surgery, but mildly expresses my feelings. We have an occasional doctor who is “doing” probably \$1,000 or \$1,500 per annum, who manages to select an up-to-date hotel or boarding house, who is always so busy that he is late for his meals. In nearly every instance he comes home, more than once, and assumes a tired expression, and suddenly falls across the bed and cries aloud to the Almighty God to give him strength (physical) to perform the many arduous duties imposed on him by the general public, being very careful that every member of the house hears his prayer.

Another method is by the use or pretended use of the microscope. A patient comes to Dr. Pill's office with an ingrown nail on his

great toe. This learned physician, after critically examining the offending member, tells him it will be necessary to examine his blood, and proceeds, at once, to prick his ear; the required amount of blood being obtained, it is put under the lens and carefully examined. The patient is then told that it is quite essential that the nail be removed, otherwise, it may be the cause of his having hemorrhoids in the near future.

And Mrs. X— comes to this great man for examination, suffering with catarrhal conjunctivitis. The doctor, who is not familiar with the instrument, and who knows no more about it than does the hog of the side-saddle, nevertheless tells her that it is very necessary that she should have a microscopical examination of her blood and urine. In due time a specimen of both her blood and urine are obtained and examined. This Solomon of medicine reports to the anxious husband that he would give a negative report of blood and urine, but that he would advise that he be sent a specimen of feces, that he might carefully examine that also. In due time the specimen is received and examined. The following morning his report is negative.

Now we are firm believers in the use of this valuable instrument, the microscope, and know that there are many cases that cannot be diagnosed without its use; nor would we like to be without it, but for the life of us, we cannot tell why any man who is not so much as possessor of one would resort to this practice.

Another method resorted to is by the use of the telephone. The doctor is sitting quietly in his office thinking of when and where his next patient is coming from, when he hears a step on his stair. He at once takes down the receiver, takes the phone in his hand, and begins to talk to an imaginary listener, the conversation running like this: “Hello!” “Yes.” “Who?” “No; I would not care to take the case, I'm so busy going both night and day. I'm sure the attending physician can attend the case quite as well as I could. However, if you wish me to see the case, I'll be glad to meet the attending physician in consultation, but am so busy I could not possibly get there before the day



after tomorrow." The doctor makes sure that the approaching patient hears every word he utters.

Another way is that of the fee cutter, who knows that he has not the ability to cope with his competitors; who knows he is not the preference, but thinks he has to resort to this abominable practice to get patients. Let us not censure this unfortunate being; but let us pity him, as it occurs to us any man should be an object of pity who puts himself in the attitude of a "cheap man."

And now we come to that, in our own mind, the most disgusting of them all. I refer to the doctor who sends or permits his wife to visit and nurse other physician's patients; who never forgets to mention that "Friend Hubby" had a case similar, only worse, and how well he got on.

Another way we may mention, is that of addressing an audience to the discredit of honest and capable physicians, and when one hears that, he may be sure the party has an axe to grind.

I have only enumerated some of the ways and means resorted to by some; on the other hand, allow me to say that I know many men in the medical profession of grand character and sterling worth. They are men who cure the sick and relieve human misery; men who say little for publication; men who never try to get into the limelight; men who never lend their journals and books to the laymen. Most of their patients get well. They diagnose most of their cases correctly. But there are a few that hurt their honest brothers by seeking the limelight, and are fascinated by the glamour of publicity. They lack the wit to see that instead of making bright and shining stars of themselves, they are misrepresenting the grand and noble profession in the ranks of which they are permitted to stand.

Allow us to say, in conclusion, as a rule the men who seek publicity, who are trying to come into the limelight, and who pretend to have made new discoveries, men who make public speeches at various times and places, do not diagnose any more cases correctly than

does the average country doctor. But they do sign more death certificates than do some of their more modest brothers. As a rule, they cannot do so much to prevent the spread of disease as can the regular every-day country doctor. It occurs to us that instead of talking so much to the "dear public" that they would help the public more by attending to their own business.

CHAS. HENDLEY, M. D.

Paris, Tenn.

### CORRECTED DISCUSSION.

Dr. Olin West, 601 Cedar St., Nashville, Tenn.—

Dear Dr. West:

In the July issue of the State Journal there are so many errors recorded in my discussion of Dr. Dulaney's paper on "Keratitis" that the points I wished to make clear are very obscure.

This is no fault of yours, I know, for the errors were made by the stenographer who took down the discussion. This should have been corrected in the copy of the discussion sent me by our Secretary several months ago, but it arrived at a very busy time, and I stuck it away and forgot it. Will you kindly print the corrected discussion in your August number?

A. C. LEWIS.

### DISCUSSION ON PAPER OF DR. DULANEY.

Dr. Lewis: I want to say a few words with regard to Dr. Dulaney's paper about keratitis, only about the treatment. He failed to mention what I consider the most important treatment in keratitis, something that is good in all cases of keratitis, whether it is of syphilitic origin, trachomatous or traumatic. This is dionin. There is nothing that does the work in keratitis that dionin does. It is good, I would say, in each and every case. It is not only an analgesic and relieves pain, but has a lymphagoc action. In every case of keratitis, whether active or latent, whether it is remote or of recent occurrence, it is very, very helpful. I just want to register a good word for dionin in all cases of keratitis.

We are glad to publish the above at the request of Dr. Lewis. Every discussion of every paper read at the annual meeting was sent to the author for correction. Many, like Dr. Lewis, did not return their discussions, but most of them will let us hear from them after publication.



## VENEREAL DISEASE CONTROL.

It was announced in the last number of the *Journal* that the Division of Venereal Diseases would soon open its offices with an experienced officer of the U. S. Public Health Service in charge. On August 1st the Division began the active inauguration of venereal disease control measures, with Dr. George A. Hays, sent directly from the Public Health Service Bureau in Washington, as Medical Officer in Charge. Dr. Hays, besides attending to the necessary detail office work and getting the required forms on the press, has made several trips of inspection to cities in the state. By the time this is being read his first official communication with the 3,200 physicians in the state will have gone out, and it is hoped that the desired result has been obtained. The disposition of the Division to do everything possible in the interest of physicians of the state has been shown by this letter.

Regarding the beginning of the control work in our state, Dr. Hays gave out the following statement:

By the passage of the Rules and Regulations for the Control of Venereal Diseases by the State Board of Health on June 23, 1919, Tennessee's portion of the Chamberlain-Kahn funds became available. It should be common information, but it might not be amiss to state that the government funds could not have been obtained unless the regulations or a state law embodying certain essentials had been passed before July 1st, 1919. And had the regulations not been passed, Tennessee would have been the only state in the Union, with the exception of one, rich both financially and in personnel, to refuse to avail itself of the opportunities offered by the government. By its action, the Board of Health placed itself abreast of other progressive Boards, and won the respect and confidence of health officials over the country.

The duty of the physician to the community which he serves has been the subject of many discourses by most able authors and orators, and his responsibility, particularly as regards the control of communicable diseases, is too well known for further amplification. However, he has become accustomed to specifically instructing his patients with diphtheria, smallpox, meningitis, etc., and protecting others in his community against those diseases. But it was because of

the delicate situations which arose in the treatment of venereal diseases and the position which the laity maintained in thinking of these diseases as communicated only by sexual intercourse and as affecting only the person suffering, as well as the fact that the reputable physician treated approximately only 40 per cent of the cases existing, that caused many doctors to fail to instruct their patients as to communicability and some even to tell a venereally infected patient of his true condition.

As a consequence of this chain of circumstances it was alarming to obtain for the first time accurate data regarding the incidence of venereal diseases, and when the results of the examinations of the second million drafted men were given out and that rue condition became apparent to the profession both in army and civil life, the great concerted movement toward the control of these diseases was begun. And it was for these reasons that Congress appropriated \$1,000,000 to help the states in their fights and intrusted with the U. S. Public Health Service the duty of leading the fight.

In this way another duty has devolved upon the medical profession at large and each physician individually, not a new one, but an old one which he should appreciate more fully—that of reporting venereal diseases, and of controlling the spread of them and of instructing his patients. But he is better enabled to attend these duties than ever before by virtue of the results of exhaustive studies of the Public Health Service officers, and the material aid in treatment given and in the general publicity campaign now being conducted.

In Tennessee he will be particularly helped, because the forms for reporting cases and the instructions to patients as well as some data for his own information have had embodied in them the best features of the systems adopted in other states—in fact, the forms in this state, I believe, are the simplest but the most thorough of any. Consequently his work in this state can be more efficient than in any other.

The physician has never before been helped in the treatment and control of his infectious cases as in the treatment and control of the venereal diseases. His responsibility in one way has been decreased, but in another as decidedly increased. At the same time, however, his venereal disease practice is being, it is estimated, enlarged 50 per cent by the campaign against advertising quack doctors and the sale of nostrums for self-treatment.

So it has not taken long in those states where the work has been going on for an appreciable time for the physician to see that he was helping his clientele, his profession, his state, his govern-

ment and himself by co-operating to the fullest extent in any measures advocated by the Public Health Service. And it is naturally expected that in Tennessee, where, with its medical centers of education, the profession stands second to none in the country, the profession will embrace the opportunity to do its part in combating the greatest menace to civilization, not even excepting tuberculosis.

This office is now ready to help in any way possible in guiding the work. A quantity of instructive pamphlets, displays, Wassermann and slide containers, etc., have been ordered and arsenamine for the intravenous treatment of syphilis will soon be ready for distribution for selected cases. It is hoped the physicians of the state will consider this office as one established for their benefit and feel no hesitancy in writing for any information regarding the methods being adopted by the Medical Officer in Charge in carrying out the requirements of the regulations of this state.

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### GERIATRICS.

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There recently came to this office, from C. V. Mosby & Co., St. Louis, a book by Dr. Malford W. Thewlis on "Geriatrics." After thinking twice we were enabled to recall the meaning of the term, and confirmed the definition which came into mind by opening and reading most of the subject matter of the book.

One who studies mortality records as these are compiled in Tennessee is impressed—cannot help being impressed—with the very apparent fact that the very young and the very old get poor medical attention, generally speaking. The Journal has before now made a plea for the babies, insisting that the average practicing physician needs to inform himself better than he is now informed concerning the treatment, and especially the feeding, of young children. We would now enter a plea for better care of and more scientific treatment for the aged.

One who will examine the death certificates recorded in our state will find much that is pathetic. He will feel sorry for the large number of babies that have died with little or no effort made to keep them alive, and he will feel a wave of sympathy for the old, of whom so many are allowed to go on to their end without any reasonable application of sci-

entific medical treatment which would prolong their terms of usefulness.

The disposition to neglect the duty of making a real diagnosis in aged patients is far too common among physicians. "Senility," "Old Age," "Worn Out," "Infirmities of Age," as they appear on, probably, seven out of ten death certificates as causes of death where these are given as causes, mean nothing more nor less than that attending physicians directed their treatment on the basis of the control of pronounced presenting symptoms and without any true appreciation of the possibilities for successful scientific treatment.

The aged are neglected, and, as Thewlis states, "Medical neglect of the aged is as general as the public neglect."

Geriatrics is defined as the branch of medicine dealing with old age. The condition of old age may develop before the end of the fifth, or even the fourth decade, but it is for those who have come to the age of gray hairs and wrinkles, as well as to the age of wisdom, that we would plead. Let these have the benefit of intelligent treatment based upon a scientific understanding of the principles of geriatrics.

The book of Dr. Thewlis, by the way, is a good investment.

### NOTES AND COMMENT

Well, we know where a young doctor who is not afraid of work, who does not want to become a finished surgeon inside of a few weeks, and who is willing to practice medicine in the country, can have a splendid location. The man who wants to wear fine linen and do nothing less than a panhysterectomy need not apply.

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We heard a young doctor just out of his hospital service say the other day that he had had four years in a medical school, Class A, too, and that he had spent nearly two years in a good hospital, but that he had never had one word said to him about the ideals of medicine, the ethics of medicine, nor the history of medicine. No wonder we have so many



dollar grabbers, if this young man's experience is the common experience of students and internes.

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A prominent specialist said to us recently that he had never seen the slightest good come from the use of argyrol. A look through the prescription files of any drug store will show that argyrol seems to be the "sheet anchor" of many men engaged in the same line of work as our good friend who made the above observation. The "ols" and the "tols" and the "oxins" and the "ydes" all come in pretty bottles and all cost more than the plain salts and the solutions of plain salts.

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Some of our county societies are still behind their last year's record of enrollment.

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Dr. R. C. Derivaux, formerly Past Assistant Surgeon, U. S. Public Health Service, has established a private laboratory at Nashville, with quarters in the Doctors' Building. Dr. Derivaux made a brilliant record in the Public Health Service, and will be a distinct acquisition to the profession of Nashville and the State of Tennessee. We are glad indeed to have his name on the list of members of the Tennessee State Medical Association.

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Hydrophobia is prevalent in several Tennessee counties. The State Board of Health Laboratory will examine the heads of animals suspected of having rabies without any charge for the service. The head of the animal should be cut off and properly packed and prepared for shipment to the laboratory. The head of a dog killed by shooting may be so macerated or mutilated by a bullet that satisfactory examination cannot be made.

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Of Tennessee's quota of the first 1,000,000 men reporting to mobilization camps, 1,91 per 1,000 were found to have tuberculosis. Hernia was found in 10 of each 1,000 men. Venereal diseases were prevalent to the extent of 38 cases in each 1,000 men.

Dr. C. F. Anderson, Nashville, has resumed private practice, having been recently discharged from the Medical Corps of the Army. Dr. Anderson saw several months' service near Paris and was discharged with the rank of Major, having won promotion.

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We would like very much to have the fellow who thinks that the editor of a state medical journal has no troubles to come in and correct a few papers for us. How does 272 corrections in one paper strike you? Capital letters in the wrong places, small letters where nothing but capitals are permissible, commas and things where nobody on earth who ever heard of a comma would expect to find one, misspelled and misused words, sentences without subject, predicate or other part, sentences with at least seven subjects, thirteen predicates and numberless other parts and parts of parts—all these and some two hundred other things as bad or worse are part of the game that the editor has to play all by himself. If it were not for certain "safety valves," every editor would swell up and bust at least once each month.

## MISCELLANEOUS

### THE PHYSICIAN UNDER PROHIBITION.

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The inauguration of prohibition throughout the United States affects the physician not only as a citizen, but also as a professional man. Necessarily, the law provides some exceptions, in the use of alcohol and various liquors containing alcohol for medicinal purposes. In a circular of instruction to internal revenue collectors and agents the Commissioner of Internal Revenue states that Section 1 of the Act of November 21, 1918 (War Prohibition Law) provides that after June 30, 1919, until demobilization is proclaimed by the President, no distilled spirits, beer, wine or other intoxicating or vinous liquors shall be sold for beverage purposes. It also provides that the commissioner shall prescribe regulations for the sale of distilled spirits for sacramental, medicinal and other than beverage purposes. The commissioner directs



that physicians may prescribe wines and liquors for internal use or alcohol for external use, as heretofore stated. Such prescriptions must be in duplicate, both copies signed in the physician's handwriting. Not more than one quart of any liquor may be prescribed for a single patient at a given time and in no case shall a physician prescribe alcoholic liquor unless the patient is under his constant personal supervision. Prescriptions must show the name and address of the patient, including the street or apartment number, if any, the date when the prescription was written, the condition or illness for which prescribed and the name of the pharmacist to whom the prescription is to be presented for filling. Physicians should note carefully this provision: The prescription must designate a certain pharmacist and no other pharmacist can fill the prescription than the one designated. The physician must keep a record in which a separate page is allotted to each patient for whom alcoholic liquors are prescribed and must enter thereon, under the patient's name and address, the date of each prescription, the amount and kind of liquors dispensed by such prescription and the name of the pharmacist filling it. Licensed pharmacists or druggists may fill such prescriptions, provided the druggist's name appears on the prescription in the physician's handwriting and provided the druggist has received a permit (Form 737), and provided he has qualified as a retail liquor dealer by the payment of a special tax. No prescriptions for alcohol or alcoholic liquors may be refilled. Druggists filling such prescriptions must preserve, in a separate file, one copy of each prescription filled and once a month must send to the collector of internal revenue in the district in which they are located a list showing the names of physicians prescribing alcohol or alcoholic liquors, the names of the patients and the total quantity dispensed to each patient during the month. If these reports show that a physician is prescribing more than normal quantity or that any patient, through the prescriptions of one or more physicians, is procuring more than the normal quantity, the facts shall be reported to the Commissioner of Internal Revenue and the United States Attorney. Pharmacists are

instructed to refuse to fill prescriptions if they have reason to believe that physicians are dispensing for other than strictly legitimate medicinal uses or that a patient is securing, through one or more physicians, quantities in excess of the amount required for legitimate purposes. If the prescription is medicated or denatured so as to be unfit for internal use, nonbeverage alcohol tax paid at the rate of \$2.20 per gallon may be used in filling the prescription, but if it is not so medicated or denatured, liquor tax paid at the rate of \$6.40 per gallon must be used. Physicians preparing or dispensing their own medicines or desiring alcohol for strictly scientific and medicinal purposes must file an application for a permit with the collector of internal revenue of the district in which they live. This application must be accompanied by a bond furnished by a surety company or signed by two individuals as sureties. Both the application and the bond must be in duplicate. On receipt of the application and bond, the collector of internal revenue will issue a permit to the physician authorizing him to have on hand or in transit a certain amount of alcohol or alcoholic liquors, the amount depending on the size of the bond. A bond for \$100 allows the physician to have on hand or in transit twenty gallons of alcohol or liquors. The physician must keep an account of all alcohol or alcoholic liquors purchased and on hand and must be ready at any time to produce his records and satisfy the internal revenue inspectors that any amount used has been for legitimate, medicinal, scientific and nonbeverage purposes. Alcohol or alcoholic liquors purchased by a physician under these circumstances cannot be used for his own consumption. The instructions of the Commissioner of Internal Revenue to all government officers is that the law and the regulations regarding alcohol and alcoholic beverages must be strictly enforced. Physicians should familiarize themselves with the instructions under the law and should carefully and rigidly comply with all requirements. In case of doubt, it is best to secure a ruling or an opinion from the Collector of Internal Revenue rather than to take any risk of violating the law.—From Journal of the A. M. A.

## THE FOOD VALUE AND WHOLESOMENESS OF SELF-RISING FLOUR.

By H. O. Snow, M. D., Tampa, Fla.

The recent inquiries on the part of many physicians in regard to the food value and wholesomeness of self-rising flour have led to much discussion.

The food value we would naturally expect to be the sum of the food value of all the ingredients, and the wholesomeness to depend alike on its nutritious qualities and the absence of injurious substances. We find, however, there is an additional consideration: The ingredients may interact and deteriorate the product.

Self-rising flour is a mixture of flour, soda and salt, together with an acid ingredient which is generally an impure acid phosphate.

The food value of the ingredients lies in the flour itself. The self-rising ingredients add in no way to the amount of carbohydrates, fat or protein. The flour, usually of a cheaper grade, whitened by long contact with the phosphate admixed, has all the food value of flour of that grade, except as it is affected by the soda present.

Public Health Report No. 333 shows that excess soda destroys the vitamins in food during the short period of cooking, and shows that the diseases of malnutrition are caused by a diet lacking vitamins. Inasmuch as manufacturers of self-rising flour seldom employ a chemist to control each mix, it is probable that excess soda may frequently be found in the manufacturer's flour. This excess soda destroys the vitamins in cooking.

But what of the long contact in the bag of the unchanged soda on the vitamins in the flour? These are in intimate contact from the time of manufacture until after being sold and it is used in the cooking. Are the vitamins not destroyed before the flour is taken from the bag?

Under any circumstances, both of these dangers can be obviated. The housewife can prepare her own self-rising flour; she can be sure of high quality flour and freedom from excess soda. All that is necessary is to sift together a well known brand of flour and the

proper quantity of a well known baking powder.

As to the wholesomeness of self-rising ingredients, there is much to consider. The cheapness of the ingredients frequently used in this product does not bespeak the exercise of all the necessary precautions in its manufacture.

The New York Journal of Commerce, in a report of a recent hearing by the Food Standard Commission, states:

"It came out that \* \* \* a great deal of sulphate of lime is really used in cheap baking powders, and especially so in self-rising flours—sometimes running as high as 25 per cent. The matter was brought forth that cheap grades of flour are frequently used in such compounds."

Thus it is evident that not only the flour itself, but the leavening materials are inferior in quality.

There is urgent need that those using this product should be warned of its dangers. Labeling requirements should be made a part of our food laws. The label should state the brand, the name and address of the manufacturer, the quality of flour used, and the names of all leavening materials. This is no more than most state laws require of baking powder manufacturers, and it would assist in tracing abuses to their sources.

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## ARMY MEDICAL CORPS KEEP EFFECTIVE 93¾ PER CENT.

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**Out of 195,000 Wounded, 182,000 Have Recovered—Work Blends With Red Cross in Many Ways.**

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The record of the Army Medical Department in despatching its duties of war stands out in bold relief as one of the greatest accomplishments in the records of medicine. It was the rule of the Red Cross to supplement this work and all activity relative to the preservation of the life and health of the fighting men had its Red Cross phase. The Medical Corps and the Red Cross are non-combatant branches of the mobilized forces of the nation, but together in the great war they waged the longest, hardest, biggest battle of the war;



one, in fact, that is not yet ended, and one by which the lives of those 195,000 wounded Americans were ransomed. Of this number 182,000 have recovered.

#### **Record of Diseases Combated.**

Statistics show beyond all dispute that the American army was the healthiest and cleanest army that ever fought. By far the greatest toll of deaths from disease was taken by pneumonia and influenza during the general epidemic that at the time was world-wide. Deaths in the army from this cause are placed at 8,000. There were only 1,000 cases of typhoid, fifty of which were fatal; venereal cases never exceeded 4 per cent, an exceedingly low figure in an army in the field. Dysentery was present at one time, but this was checked before it reached the epidemic stage.

When the American troops arrived in France there was great difficulty in securing hospital space and the first wounded found themselves housed in all manner of buildings, from choice edifices of imperial foundation down to humble and none too clean municipal halls in the French villages. There were, at the close of the war, 153 base hospitals, sixty-six camp hospitals, and twelve convalescent hospitals. One of the best known hospitals was the one established in the Ecole de la Legion d'Honneur, at St. Denis, quite close to Paris, where many of the wounded from Chateau-Thierry were brought.

#### **Improvising Yank Hospitals.**

The great Haviland china factory at Limoges was turned over to the Americans for hospital purposes, and the library of Orleans was stripped of 100,000 books to make room for the narrow cots and operating tables. In Vichy, hospitals were established in eighty-seven hotels, while seventy other hostleries were similarly converted in and around Vittel and Contrexeville. Two of the outstanding features of American hospital work in France were the great hospital centers such as Mesves, with 25,000 beds, and the mushroom 1,000-bed "Type A" hospitals, that standardized all American-built hospitals in France.

Summing it up, the Army Medical Corps and the Red Cross were able to keep 93¾ per cent of the fighting forces effective for

duty at all times, and of the remaining 5.7 per cent, only 3.4 per cent were incapacitated through disease. This is a record on which the Army and the Red Cross can look with satisfaction.

#### **PRECAUTIONS IN ADMINISTERING ARSPHENAMINE AND NEOARSPHENAMINE.**

The following instructions were recently issued to medical officers of the Public Health Service regarding the administration of arspenamine and neoarsphenamine:

##### **General Directions.**

The ampule, before opening, should be immersed in 95 per cent alcohol for fifteen minutes in order to detect any crack or aperture not primarily recognizable. (Should such a breach be discovered, the contents of the ampule should be discarded.)

##### **Arsphenamine.**

(1) **Solution.**—Cold, boiled, freshly distilled water should be used in all cases except in the case of "arsenobenzol" made by the Dermatological Research Laboratory, in which case hot water is required. No more solution should be prepared at one time than can be given in thirty minutes.

(2) **Neutralization and alkalization of the above solution.**—With a graduated pipette or burette add 0.9 cc. of normal NaOH for each 0.1 gm. of the drug (i. e., 5.4 cc. for each 0.6 gm.). The alkali should be added all at once and should quickly convert the acid salt solution of arspenamine into the alkaline salt solution, or the disodium salt of the arspenamine base. (The solution of arsenobenzol, which is hot, should be cooled before adding the alkali.) This represents slightly more alkali than just enough to redissolve the precipitate formed by the addition of this reagent.

The alkali used should be standardized against normal acid. Normal NaOH is a 4 per cent solution of the c. p. product. However, if made on the basis of weight, it may be considerably less than this strength, hence the necessity for titration. It could be made up in amount sufficient for a month's use if kept



in a well-stoppered bottle and exposed to the air for only a few seconds at a time when using the solution. It should be kept in a bottle that has been used for NaOH solution for some time, so that all action it causes in the glass will have occurred. When it is impossible to have this made up at the station, it will be furnished upon request from the Hygienic Laboratory. Should the NaOH solution become cloudy or contain a precipitate, it should be discarded.

(3) **Concentration of the drug.**—It is desired to emphasize the fact that the concentration of the drug should not be greater than 0.1 gm. to 33 cc. of final solution. The practice of using concentrated solution is not only in direct conflict with the instructions on the circular, but carries a distinct hazard to the patient.

(4) **Method of injection.**—The gravity method only should be used. Where several patients are to be injected from the same solution, the container for the solution should be graduated. If not already graduated, this can be done in a few minutes by sticking on a strip of adhesive plaster and marking the graduations on this. A convenient way to do this is to have each mark represent 30 cc., with a long mark for each 180 cc.; then, if the volume is made up so that each 0.1 gm. of drug is contained in each 30 cc., the doses can be given accurately. It is a great convenience to have a glass stopcock near the glass tubing, which serves as a window just above the needle in order to control the rate of injection. If no stopcocks are at hand, the rate can be controlled by the size of the needle and the height of the column of fluid. A No. 18 or 20 B. & S. gauge is the best sized needle.

(5) **Rate of injection.**—Operators should pay particular attention to the rate of administration and in no case should it exceed 0.1 gm. of drug (30 cc. of solution) in two minutes. This point is especially emphasized because it is believed that excessive rapidity of administration accounts for more unfavorable results in the use of arsphenamine than any other one thing.

### Neocarsphenamine.

The principal precautions to be observed in the administration of neocarsphenamine are:

(1) Only a single ampule should be dissolved at a time. This drug must not be dissolved in bulk to be given to a series of patients.

(2) Cold water only should be used.

(3) The dilution should be not stronger than 0.1 gm. of the drug in 2 cc. of freshly distilled water.

(4) A very small needle should be used, and the time of injection of the dose should not be less than five minutes.—New York Health Department Bulletin.

### LIST OF REGISTRARS OF VITAL STATISTICS. (Continued.)

**Bradley County.**—Civil District No. 1, Will H. Crox, Route 1, Charleston; Civil District No. 2, G. W. Humphries, Cleveland; Civil District No. 3, T. A. Wilson, Charleston.

**Campbell County.**—Town of Lafollette, Dr. U. S. Carden, Lafollette; Civil District No. 1, Mrs. W. J. Meador, Lafollette; Civil District No. 2, Dr. Jas. Willoughby, Agee; Civil District No. 3, Dr. R. L. Gallaher, Caryville; Civil District No. 4, Jessie H. Baird, Elk Valley; Town of Jellico, Dr. D. W. Moore, Jellico; Civil District No. 5, D. H. Rosier, Newcomb.

**Cannon County.**—Civil District No. 1, Doss Carter, Readyville; Civil District No. 2, W. K. Keele, Route 4, Woodbury; Civil District No. 3, J. J. Nichols, Readyville; Civil District No. 4, J. E. Young, Woodbury; Civil District No. 5 and No. 13, E. M. Boman, Route 5, Morrison; Town of Woodbury, Civil District No. 6, outside of Woodbury, E. S. Robertson, Woodbury; Civil District No. 7, W. D. Stewart, Route 5, Woodbury; Civil District No. 8, T. J. Winnett, Route 3, Woodbury; Civil District No. 9, Fred Hale, Route 2, Woodbury; Civil District No. 10, E. T. Melton, Gassaway; Civil District No. 11, Dr. B. R. McKnight, Milton; Civil District No. 12, John Robinson, Bradyville; Civil District No. 14, M. B. Davenport, Route 1, Woodbury; Civil District No. 15, Joe B. Watson, Route 5, Woodbury.

**Claiborne County.**—Civil District No. 1, Henry Pursifull, Tazewell; Civil District No. 2, Civil District No. 3, Dr. B. M. Davis, Route 7, New Tazewell; Civil District No. 4, Dr. Geo. Lynch, Route 7, Tazewell; Civil District No. 5, A. H. Brooks, Harrogate; Civil District No. 6, Civil District No. 7, Joe C. Thomas, Cumberland Gap; Civil District No. 8, Grover D. Walker, Forkridge; Civil District No. 9, Dr. Jim Ausmus, Pruden.

# THE JOURNAL OF THE TENNESSEE STATE MEDICAL ASSOCIATION

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## A DISCUSSION OF THE BONE GRAFT.\*

By Willis C. Campbell, M. D.,  
Memphis.

This subject is of particular interest at present on account of the number of bone lesions occurring in our recent conflict alone amenable to this method of repair.

My experience is limited entirely to civil practice with the exception of recent cases returned from the army, the result of which are too early for consideration. I have employed bone grafts for the past ten years in possibly 150 cases, 75 of which are used as a basis for this discussion. Only the autogenous graft is practicable and will be considered—that is, the living graft from the same individual. In most, the bone was taken by means of motor saw from the shaft of the tibia, not using the crest, the removal of which may occasionally so weaken the donor bone that fractures occur.

The pathological conditions which necessitated this measure are as follows:

1. Deficiencies in the bodies of the vertebra: Tuberculosis, fractures, congenital anomalies, spondylitis deformans. The Albee operation is required, which consists in splitting the spinous processes of at least seven vertebrae, making a gutter or trough in the midline into which a graft of equal length is inserted from the tibia. The object is for better fixation, prevention of deformity and indirectly affecting the diseased process.

2. Congenital deficiencies: Congenital absence of whole or parts of bones.

3. Acquired deficiencies: Trauma, infection, tumor, etc.

4. Ununited fractures.

5. Fixation of joints when motion is undesirable, as in paralysis, and to produce ankylosis in diseased joints in tuberculosis, arthritis deformans, extreme trauma.

The fate of the bone graft and success of the operation depends materially on many factors in the technique of the procedure. Above all, infection must be avoided, otherwise the graft will act as a foreign body at the seat of infection, requiring removal with absolute failure of the object, though there are reports of grafts remaining in spite of infection, and by Carrell-Dakin method the desired result obtained, but this is far from the rule. Consequently the most rigid asepsis is essential, preferably absolute instrumental technique, which was rigidly enforced in all of my cases. If the case has previously been the seat of infection, all symptoms must have subsided six months to one or more years before this method is employed.

Bony contact at both extremities of the graft is essential, and in some instances throughout, otherwise our graft will remain a foreign body in soft tissues to be gradually absorbed. The periosteum should remain intact when possible, though some doubt remains as to its value in osteogenesis. The receiving cavity or bed must be as free from scar tissue as possible, and when practicable scars should be avoided, the incision and the entire operation being done in a new field and normal tissues, which greatly promote nutri-

\*Read before the Tennessee State Medical Association, April, 1919, at Nashville.

tion and avoid latent infection in old scars. Also the graft should be placed as far from the skin surface as practicable. Absorbable sutures of kangaroo tendon, chronic cat, etc., were used frequently, and when possible simple dovetailing of the graft. Wires and foreign bodies were scrupulously avoided. In addition the soft tissues are sewed tightly about the graft. Suitable external splints or plaster of paris which give perfect fixation were applied to remain at least three months, and in most instances orthopedic apparatus is worn for one year. Callous formation is much slower in such cases, for the osteogenetic forces are usually diminished by the pathological process, as indicated in compound fractures when bony union is often retarded.

The percentage of failures are extremely low so far as the action of the graft is concerned. In only one absolutely clean case did infection occur, and this was caused by faulty mechanics. In three cases with history of prolonged sepsis there was a "lighting up" of the old process, though there were no signs of infection for many months prior to the operation. All cases received a most careful examination, including Wasserman, etc., prior to operation, and all obstacles to success were removed. Of these seventy-five, seven gave a history of previous bone infection, three of which (above mentioned) became immediately infected, necessitating removal of the graft. In seventy-two, grafts remained intact, wounds healing by primary intention. In twenty-eight Albee operations, one of the early cases became infected from pressure necrosis of the graft against the skin; the remaining twenty-seven healed promptly.

In ten, grafts were used to replace defects in continuity, congenital or acquired. The progress of these cases are most encouraging, though sufficient time has not elapsed to consider the end results, but all healed permanently with the graft in position months and years thereafter. Thirty ununited fractures were treated by bone grafts, the inlay method being used when possible. In three above mentioned when infection had previously existed, there was a reinfection which necessitated removal of the grafts. The remainder healed by first intention, one ununited hip failed from fracture of the graft, one ununited

ed humerus failed. In two sufficient time has not elapsed. In the remaining twenty-three solid bony union occurred with restoration of function.

In three tuberculous knees, the free patella graft was applied for the production of ankylosis, one successful, two not satisfactory at the present time. More recently I have employed the patella as a graft by severing the quadriceps tendon, and leaving the attachment between the tendon and patella intact. The anterior surfaces are denuded, and inlaid between the articular surfaces of the femur and tibia. Thus we avoid disturbance in nutrition, which must ensue in such a thick mass of bone. In this manner I have also employed the patella by denuding the lower third and placing into a prepared cavity of the same size and shape on the upper anterior aspect of the tibia, thus producing a stop joint when genu recurvation exists congenital or from paralysis. A detailed description of this measure is given in a recent issue of the *Journal of American Medical Association*.

In two tubercular knees I used the free graft from the tibia by simply pegging the articular surfaces together; in one case only two weeks ago, and the other ten months ago. The result so far in the latter has been so satisfactory that I will give a brief history.

Negro boy ten years. Healed tubercular spine. Typical tuberculous right knee, one year duration. Knee held thirty degrees flexion, under anesthesia bone peg inserted through head of tibia into lower extremity of femur, recovery uneventful; boy now has bony ankylosis, with no untoward effect on the growth, though graft passes through both epiphysis and diseased joint. He walks without support, all symptoms having entirely subsided. This procedure would not be advised in any case when full co-operation of the patient could be secured.

In conclusion, I particularly desire to call your attention to the necessity of waiting until all evidences of infection have entirely subsided before doing any bone operation for the restoration of function. All signs and symptoms, such as swelling, induration, tender points and inflammatory products as shown by x-ray should cease to exist for at least six months. Even after these precautions there



is no case in which previous infection has existed that we can be certain that a "lighting up" will not recur. If one will consider osteomyelitis it is quite evident that there is no method, x-ray or otherwise, that we can determine a latent process in bone. I have repeatedly seen cases that have been healed for ten or twenty years become painful with abscess formation, extrusion of sequestra and at times requiring extensive operations; consequently how can we know that any osteomyelitis from shell wound or other cause does not possess a latent focus of infection? However, by extreme care and much patience on the part of the surgeon and patient, this danger can be much reduced, with a far greater proportion of successful results and the saving of many joints and limbs which would otherwise be lost.

#### DISCUSSION.

Dr. J. P. Baird, Dyersburg: I am very glad to have heard Dr. Campbell's paper. I thought when I saw the subject announced as "The Fate of the Bone Graft," the essayist was going to say that the bone graft was going out of use, or he had been disappointed in its use. I am glad to know that he has had such excellent results from the bone graft. I have used it with excellent results in almost every case.

I have enjoyed Dr. Campbell's paper very much, and I am glad to see that he takes such a position in the matter of the bone graft.

Dr. Campbell (closing): There are one or two points I wish to speak of in closing, especially regarding hip cases. These old ununited fractures of the neck of the femur are receiving too little attention. In these cases that are quite old the bone graft can be used with great satisfaction and with perfect safety, provided, however, the patient is a good risk and we do not do too much. In that type of case I have been rewarded on a number of occasions by using a bone graft taken from the tibia, making a small incision in the trochanter, and with the traction apparatus we use in these cases I have placed the bone graft in proper position and have simply driven it in there. This type of case gives us great satisfaction and relieves a comparatively hopeless cripple.

In another type of case I spoke of the inlay graft being used, and as we are told the inlay graft is more physiological. In some cases, however, in which we have used the bone graft, where there is a good deal of deficiency, the bone is so thin and atrophic that it is impossible to inlay anything in it.

Another point which I would emphasize is the question of fixation. I know that many writers claim we should get absolute and perfect internal fixation. I do not regard this as essential, provided external fixation is satisfactory. I use internal mechanical means where possible, and absorbable material for internal fixation, avoiding foreign bodies, as nails, wires, etc.

#### TALIPES.\*

By J. P. Baird, M. D.,  
Dyersburg.

Talipes, or "club foot" is a permanent deviation of the foot into deformity—a deformity in which there exists either an abnormal relation between the bones of the foot to each other, or to the tibia and fibula. This deformity is of such a nature that the foot is inclined at an angle to the leg, so that the sole no longer rests on the ground. The directions in which the foot may be displaced are various and the displacement may be either simple or complex.

Of the simple forms we may enumerate *talipes equino*, in which the heel is drawn up and the toes pointed, the patient walking on the extremities of the metatarsal bones; *talipes calcaneus*, in which the reverse condition exists, the front part of the foot being drawn up and the patient walking on the heel; *talipes valgus*, in which the foot is everted and the patient walks upon the inner border; *talipes varus*, in which the foot is inverted and walking is done on the outer border.

In the majority of cases the deformity is a mixed one, the most frequent being *talipes equino varus*, a combination of equinus with varus. *Talipes equino valgus*, *calcaneo valgus*, and a combination of many of these forms together may be seen. Then there is the condition of *pes cavus*, or abnormal concavity of the arch of the foot, and *pes planus*, with no arch, or flat foot. These are some congenital, and some acquired. The congenital form is probably due to an arrest of development or to a mal position of the foetus in utero.

During early intra-uterine life the feet lie in a position closely resembling *talipes equino*

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

*varus*, but shortly before birth, or even after, the feet rotate into normal position. If from any reason this rotation does not take place, the deformity results. In rare cases congenital club foot may result from imperfect development of the bones of the leg, but in most cases it is the result of abnormal development of the bones and ligaments of the feet. This abnormality at birth unless properly corrected will become more aggravated as time goes by, the ligaments becoming further shortened, while those on the opposite side, together with the muscles, become permanently lengthened and the bones throughout their period of growth, accommodating themselves to the position of the foot, become misshapen permanently and beyond repair save by a radical operation.

There are numerous causes for the acquired variety of club-foot. Perhaps the most common causes are the various forms of paralysis, infantile paralysis probably causing the most. Injury to the nerve trunk supplying the part from wounds or pressure from applied splints—that is, broken bones with splints applied too tight. Even hysterical manifestations are said to produce these results. When a nerve or nerves supplying a group of muscles on either side of the leg become paralyzed, these muscles lose their power and contractility, while the group of muscles on the opposite side of leg, being unopposed, soon draw the foot into a condition of permanent contraction. When this remains any considerable length of time the structure, shape, and direction of the articular surfaces become altered, unless steps are taken to keep the foot in the proper position.

It is very important to keep the correct position following accidents, injuries and early stages of paralysis. A few cases are said to have been produced by affections of the central nervous system, causing spastic contraction of certain groups of muscles pulling the joint in their direction. Other causes which may be named are cicatrices, contracting after burns or extensive wounds; joint diseases in which proper attention has not been paid to keeping the foot in position, which may be influenced by the weight of the bed clothes, etc. Rickety curvatures are sometimes present, and occasionally deformity is caused by osteitis or

osteomyelitis, or even from improperly reduced fractures about the foot and ankle.

While the various causes of this affection are of some interest and importance, the most important question to the patient and to us is, What can we do about it? Upon the answer to this question by us will depend the future happiness and ability to earn a livelihood or the continuous embarrassment, loss of efficiency and misery of many unfortunates.

We should all make ourselves familiar enough with the possibilities of almost perfect results of treatment in the mild cases, and of very decided improvements in the worst forms that we would be in a position to offer hope and encourage patients to institute proper treatment at the earliest possible moment. Many of them are under the impression that improvement is impossible. I want to emphasize this point in my paper: that we familiarize ourselves with the possibilities of proper treatment and that we don't make the mistake of sentencing some unfortunate patient to perpetual deformity and misery when his condition may be greatly improved. This point has been forcibly fixed in my mind by the appearance of several such cases, who had for a considerable time considered their condition hopeless on account of advice received at various times and places from one or more physicians in whom they had considerable confidence. The family physician primarily has the confidence of the family and patient, and is in position to be of inestimable value by offering advice which, acted upon, may transform a lifelong cripple to a happy, useful citizen.

To take up the treatment of each of the various forms of *talipes* would be tedious and take too much time, so I will only mention some of the general indications for all, and describe the operative treatment for one, by far the most common form—namely, *talipes equino varus*.

When of congenital origin, the treatment in the earliest stages must be directed to the alterations which have occurred in the bones and must be designed to rectify the shape and directions of these while they are still soft. If treatment is left until later life a good result is reached only by more extensive operation on both bones and tendons. In the acquired

variety the primary lesions are usually situated in the muscles and soft parts, and the bony deformity occurs only after a long period of time, hence the earlier treatment is begun the less there will be to do. We can readily see how when one side of the foot is subjected to constant and extreme pressure from contractions of muscles on that side, that the growth of the bones on that side will be impeded, while on the opposite side they will grow rapidly to fill up space made by the separation of the articular surfaces on the convex side of foot. Consequently they shape abnormally, somewhat wedge-shape, and in the correction of advanced cases this part of the bone will have to be removed, taking out a generous wedge from the convex side from one, or including several bones, of sufficient size to allow the foot to resume reasonably straight position.

Practically the same result may be had from boring out a considerable portion from the inside of the bodies of two or three of the abnormally enlarged bones, leaving the articular surfaces intact and shell-like, which, when forcible pressure is brought to bear, will cause them to crush together and adjust themselves to the new position with perfect articular surfaces, insuring good action subsequently. This later scheme I have tried with satisfaction in several cases, and I think in many cases it will give better results than cutting out a straight wedge.

In all cases an over-correction of position must be made. I prefer to put the foot in the over-corrected position before the application of the first splint, for any future change in position becomes extremely painful after the part begins to adhere in the new position.

In the spastic cases means to correct the spasm must be taken and division of some of the tendons may be necessary. In paralytic cases the chief thing is to restore the muscular power by electricity, massage, and use of a suitable apparatus to prevent overstretching of weak muscles and undue contraction of the sound ones. If muscular function is entirely lost, joint fixation by various methods must be accomplished. By tendon transplantation, also, healthy muscles may be made to perform the functions of paralyzed muscles, and when

properly done this is an extremely useful procedure.

Arthrodesis, or removal of the articular cartilage, may be very useful in cases of flail-like joints (from all the muscles being paralyzed), which can be made into fixed ones. When deformity comes from cicatrices, these must be removed or divided.

Now in all of the different varieties there are many different degrees of deformity, from one which is hardly noticeable to those of the most extreme degree which are almost hopeless, but they are usually divided into about three classes or groups.

The first group or the mildest of cases have no shortened structures to impede reposition of foot, and deformity in bones is very slight. These can be rectified by manipulation alone, if patience and perseverance are persisted in, as by methodical stretching of the contracted parts and general massage several times daily, paying especial attention to any group of muscles deficient in power. Suitable splints are applied, and only removed for the frequent treatments by massage. Most of us know too little of the benefits of massage and manipulation and, as a consequence, some of our patients are getting away for osteopathic treatment. So we not only lose an opportunity of doing the patient a good service, but lose the control and confidence of many and, incidentally, a good fee, which we all need in our business. But going back to the treatments, over-correcting, etc., should be kept up several times daily, done at least part of the time by the physician himself, and closely supervised by him all the time. Not too much force should be used, as muscular spasm from rough handling will set up and interfere with best results, if the child doesn't resent and refuse treatment. It must be coaxed rather than forced back in correct position. The nurse and mother should frequently rub the muscles on the opposite side of the deformity, with the view of bringing them back to their normal strength, keeping the foot properly balanced. The galvanic current is said to be of some benefit in such cases, and as the child begins to walk suitable shoes should be fitted and certain exercises picked according to the needs of the case. Many, however, will do better if an immediate over-correction is done under



anaesthetic and put in casts.

In the second group of cases or in those in which the deformity is too far gone for above treatment and who would resist such measures, tenotomy must be resorted to, resisting structures divided freely, the blood supply being, of course, considered and guarded, and the foot put in a splint in an over-corrected position. After four to six weeks, when the foot has properly set and the union of the divided parts takes place, careful manipulation, massage, electricity and the application of apparatus should be begun and suitable mechanical arrangements allowing motion within the normal limits of joint motion should be applied.

In the third and most severe form of cases the above treatment will not be sufficient, and besides the division of tendons, ligaments, fascia, opening joint capsules and so on, a more extensive operation must be made, involving the removal of a part or the whole of the offending bones. It is in the long-standing severe cases of *equino varus* that these procedures are most often called for, but they are sometimes found necessary in other varieties.

Cicatricial contractions sometimes cause severe deformity (following ulcers and burns) and then plastic operations are required. In these cases prevention is the best treatment, and skin grafting should be employed to prevent contraction.

I will only take up a partial description of the treatment of one of the individual forms of *talipes equino varus*, or the most prevalent form, as I have already taken more time than I intended on this subject.

The preparation of the foot should begin about two days prior to the work, by the application of a soap poultice. As the skin is abnormally thick and wrinkled in places, this, followed by a thorough brushing and the application of a moist bichloride pack for twenty-four hours prior to the operation, will get the foot in fair condition aseptically, so that by the application of pure iodine sponged off with alcohol before making the incision we may feel safe in preventing infection. Especially careful should we be with our aseptic precautions if we are to incise or enter the bones, for bone tissue is not very resistant to

pathogenic bacteria, and it is easy to start a dangerous and destructive osteitis.

The foot, after preparation, is laid over a suitable pad or sand bag, and is firmly grasped around the instep by an assistant, who pushes upward, rendering the tendon Achilles tight and easily palpated. A very small puncture is made to the inner side of the tendon, being careful not to cut the posterior tibial artery or nerve. When the edge of the tendon is reached the knife should be withdrawn and replaced by a blunt-pointed tenotome, which is forced flatwise and parallel with the tendon close to and around the anterior edge of the tendon. The tendon is then best relaxed while the cutting edge is turned toward the tendon. It is then easily divided by a steady pressure backward as the assistant renders the tendon tight, but care must be taken not to enlarge the skin wound as the last fibres snap in two and the heel drops. No bleeding of importance should occur, the puncture should be closed with sterile plaster, and the remainder of the operation is finished.

In extreme cases, where much lengthening of the tendon Achilles is necessary, it is best to split the tendon and lengthen by allowing the split fibres to slide over each other to the required length and suturing together in this position. The posterior ligaments of ankle joints may also have to be divided in these cases.

The plantar fascia is next rendered tense by the assistant pushing upward on the toes and the knife pushed under the tense fibres from the inside of the foot. Avoid the plantar arteries if possible, but if the fascia is thick and tense one or both may be cut without danger to the nourishment of the foot if the dorsalis pedis on top of foot is not injured. After turning the cutting edge downward, divide all shortened fibers and if the arch cannot be forced downward make another free division somewhat anterior to the first and in like manner. Do not unnecessarily wound the skin, for if this is done a much longer time is needed for repair and chances for infection increase. It will now be found in the extreme cases that the foot cannot be wrenched or forced into position, no matter how much force is applied, and the enlarged bones at outer and top side

of foot lock in such a way as to prevent correction.

A flap must now be lifted over the most prominent position and enough parts or bones removed to allow proper shaping of the foot. Part or all of the astragalus may be removed and a wedge from the tarsal bones taken out. When correction is as near perfect as can be made it will be found that the large callosity or "false heel," which has been caused by supporting the weight on the outer and upper part of foot, becomes redundant tissue and may be removed by an elliptical incision and the flap trimmed to fit the new position of the foot. This side of the foot should be closed with chronic catgut after sufficiently strong tension sutures have been properly placed. The foot, now ready for the sterile dressing, the splint or cast is applied, being not too tightly bound, and always in an over-corrected position. After a few weeks' careful watching and any necessary attention, a suitable apparatus or shoe can be fitted and instruction given the family for future care of the foot, which must be watched and guided for a few months or even years.

The result of treatment of talipes will depend on careful judgment, mechanical ability, gentleness and patience. In these cases, as well as other diseases and conditions, to obtain best results, they must be individualized. Each case is a little different and has to be treated accordingly. I have never seen two exactly alike, and the method of correction is necessarily varied. The earlier treatment is begun, the easier it is to get good results and the less there is necessary to do.

Of course children are more easily treated than adults, but wonderful results can be accomplished even in the aged. Adults, while harder to correct and place in the proper corrected position, will as a rule maintain that position more easily than many of the younger cases after they have once firmly healed and set in the new position.

In the series of slides which I shall present I have chosen a few from infancy to the age of 45 years. Many of these cases I have watched for a period of several years after correction, and find that invariably the results shown in the slides are maintained and improved with time. I have received letters

from two of the older patients shown in this series, aged 40 and 43 respectively, stating that their feet, over four years after correction, were still improving in strength and function, although they had been walking since a few weeks after operation.

The first few slides show early cases. One infant only six months of age, which was corrected by forceful over-correction in casts, then held in position by bandages, adhesive and shoes until the walking age, after which normal use of the foot promotes normal development, which remains permanent. This is the age at which all should be corrected, and it is a great misfortune to allow them to grow older, when the bones begin to ossify and grow in an abnormal position and shape as shown in older children and adults. To illustrate this, I will put on a slide showing the great overgrowth of the external tarsal bones in an ordinary *talipes equino varus*. The following plate will show how this is corrected by removing a wedge of the external overgrown bones, and transplanting same to the other side of the foot, which has remained abnormally short by continuous pressure and contraction. I will also at this point show one x-ray of a flail joint from infantile paralysis, showing method of correction.

This unstable condition is difficult to correct and is usually done by complete removal of the astragalus. Shortening naturally results, and for that reason I prefer to leave the astragalus and advance a larger strip of bone from the lower end of the tibia into a receptacle made in the astragalus. When ossification complete this gives a good stable joint without any shortening. This may be reinforced by shortening of several tendons and ligaments around the ankle and by splitting the tendon Achilles and placing a piece of same beneath the periosteum on the posterior surface of the tibia. I have corrected several in this manner which have proved entirely satisfactory.

With your permission I will now show a case which does not, strictly speaking, come under the head of talipes, but is a congenital foot deformity, very interesting and also very rare. I have seen but the one case. It is an extreme case of congenital elephantiasis of foot, leg and thigh, six months of age, now under our treatment. I will be glad to report the case in

detail in the near future, when treatment is finished. I have operated on the foot alone, trimming it down to near the size of the normal foot, and will remove the hypertrophy of leg and thigh at subsequent operation. The toes and part of the length of the metatarsal bones were removed to cut the length of foot to same as that of the opposite foot. The hypertrophied mass on top of the instep was also removed. The remaining leg bones are of the same length of those in the opposite leg, and only the soft parts need removal.

I do not consider it too late to operate on any patient as long as he has prospects for another eight or ten years of reasonably active life, for the result will be good in any patient in whom we might expect an ordinary fracture to unite; and even a few years of satisfaction in a straightened foot will pay for the few weeks time necessary to secure correction and gain a more normal and satisfactory function.

### LACERATIONS OF THE CERVIX AND PERINEUM.\*

By W. T. Pride, M. D.,  
Memphis.

It is with some timidity that I present such a subject, but often the cases most common are the ones most neglected. It has been my misfortune to see a great number of these cases, and for this very reason I have written this paper.

The greater number of lacerations are preventable, but a certain per cent will happen with the best of care, and these should be attended to properly and at the proper time.

For generations past the delivery of a human soul into this world was thought to be of small importance. Just any old woman or general practitioner could fill all requirements, and as a consequence, we have more gynecology, more cancer, more invalids among women than is compatible with our present civilization. A general practitioner from Arkansas told me he had sixty deliveries in one year. Asked how he could at-

tend so many in the country, he said he never saw them but once. These are the women who suffer and many die, causing our statistics in America to show a high death rate in maternity cases.

Cervical lacerations are common; in fact, few cases escape without some small laceration, but these heal readily. There are two forms which usually need attention—the stellate laceration, when of any depth, and the one high up into the broad ligament. The stellate form rarely heals properly and later causes a leucorrhea. The high lacerations, of course, cause hemorrhage. Both of these should be repaired at the time of delivery.

There is a question as to the best time to examine the cervix after childbirth on account of the danger of infection. This must be governed by the condition present. If in a good hospital and everything sterile, there can be no objection to the examination of the cervix after delivery.

The anterior and posterior lips are seized with double tenacula. The posterior is sometimes difficult to find, but if the assistant presses upon the fundus the cervix presents and all difficulty is eliminated. A few catgut sutures is all that is necessary in either case.

The cases seen after healing has taken place should be attended to, for the woman suffers as a rule from leucorrhea, headache and backache; and again, because of the frequency of malignancy. These cases should have either a high or low amputation of the cervix, depending upon the scar tissue.

Lacerations of the perineum are also frequent. Some are unavoidable, but the greater number are due to bad deliveries—either the haste or ignorance of the accoucheur. Unavoidable lacerations are due to a disproportion of the head and maternal soft parts, too rapid expulsion of foetus, a narrow pubic arch, or abnormal position of the foetus.

In not a few cases the tearing is due, not so much to a disproportion, as to non-elasticity of the perineum, which is particularly marked in elderly primipara.

If gas is administered during the second stage, a little chloroform for the last few pains and the head held back a sufficient

\*Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



length of time, the greater number of lacerations are avoided.

Of course, an abnormal presentation attended by a difficult delivery almost necessitates lacerations. A perineal laceration should be repaired immediately, as the patient is not so sensitive to pain and is partially anesthetized. The apposition may not be good, in which case a second repair can be done later. If the wound is infected, the stitches can be removed and repaired later.

The fact that unrepaired lacerations of the perineum produce untold trouble in the future, should make us very insistent upon this operation. When the main support of the uterus is torn away and that organ turns backward and drops downward, the woman becomes a chronic sufferer and a nervous wreck.

The method of repairing both the cervix and perineum are illustrated in the diagrams shown. (Here plates and diagrams were exhibited.)

#### DISCUSSION.

Dr. L. L. Sheddan, Knoxville: I enjoyed the doctor's paper very much. This subject is one of considerable importance to those who are doing gynecologic and obstetric work. I think it is pretty well recognized by all obstetricians and general practitioners that immediate repair of a laceration of the perineum is of the very greatest importance, and should be practiced.

As to the primary repair of cervical lacerations, I have not found that to be practiced by any one. Possibly it would be better to do it, but the ordinary delivery is accomplished in a private home perhaps at night, where the light is insufficient, and consequently is not properly carried out.

The results of these injuries are protean in their manifestations, and the essayist has well described the leukorrhea and probable malignancies which follow. Of course, it is not every laceration of the cervix by any means which causes trouble. If it did, we would have to repair the cervix practically after the birth of every child. In a case that is causing no particular trouble, with no discharge, I think it can be well let alone. If the lacerations are causing trouble, if there are cervical erosions, irritations which are prone to lead to malignant degeneration, then I think it is well to repair the cervix.

I think the members of the Tennessee State Medical Association are familiar with these lacerations, and I will not take up the time of the association in further discussion of the subject.

Dr. John L. Jelks, Memphis: I am not especially interested in this work, but there are two

phases of the subject I would like to speak about, and one is with reference to repair of the cervix. What the essayist has said and what Dr. Sheddan has said is well and good, particularly if you are in a good sanitary hospital with the proper facilities at hand. I am raising my voice not to repair the cervix except in cases of hemorrhage. If there is a hemorrhage due to a laceration which involves the artery, it must be repaired, but how easy it is for us to rather obstruct drainage not only of the tissues, but of the uterus itself. I can see where such an operation would be indicated if we were always sure of our asepsis and drainage.

The next point is with reference to repair of the cervix. Gentlemen, in justice to him who is dead and gone, who received his degree in this beloved city; to him who was born in a little Alabama town, and who visited our state association and Southern medical societies, and was always known and always loved by you, we should give credit. After he was dead and gone I learned for the first time that at the Atlantic City meeting of the American Medical Association Dr. Jelks, of Hot Springs, Ark., was the real pathfinder who performed the first so-called Emmet operation.

Dr. W. T. Black, Memphis: I believe that secondary repairs of the perineum will be less frequently necessary to perform in the future than in the past, due largely to the fact that more physicians are paying more attention to obstetrics. This is brought about not only by physicians preparing themselves to do better obstetrics, but more women go to hospitals to be confined, and more women are using trained nurses during their confinements, consequently immediate repairs will not be accompanied by so many failures, which necessitate secondary operations later on.

Another thing which is very important in lacerations of the perineum and cervix, and especially to those who are doing obstetric work, is to advise the patient to come to the office a few weeks after confinement for a vaginal examination.

In regard to the repair of the perineum, the technic which is followed should depend upon the degree of the tear. It is necessary to get the muscles and fascia as well together as possible. I think a tear consists just as much in laceration of the fascia as of the muscles, and it is necessary to obtain a good result to include well your fascia in your sutures.

The levator ani is divided into an anterior and a posterior segment, and unites with the other perineal muscles to form the principal muscles constituting the perineum. The levator ani, the transversus perinei sphincter ani and vulvo-vorniso and the fascia which surround them comprise the principal supports of the perineum.

In repairing the perineum, the usual technic carried out by the majority of gynecologists in

that is, of chromic catgut or plain catgut, leaving nothing exposed on the outside. This technic is all right, if the patient can have the proper after-care. Proper after-care in these cases is of as much importance as the operation itself, and unless they have this care there will be failures. When you have a slight laceration you can use the buried method of using catgut, and then by putting in a subcutaneous stitch you will find that is all that is necessary. Where the laceration extends to or into the rectum you get better results by using a permanent suture of silkworm gut, plus the catgut. In cases of infection your silkworm gut will hold the structures together and often heal by secondary granulation where you have severe infection.

Dr. J. P. Baird, Dyersburg: I am very glad Dr. Pride presented this paper, because I consider he has dealt with one of the most important subjects that can come before the association. It is a subject that general practitioners and a great many surgeons should pay more attention to.

I will pass over the points in reference to immediate repairs, which have been pretty well covered by those who have preceded me in the discussion of the paper, and pass on to the chronic conditions left following perineal and cervical lacerations.

There are a great many chronic conditions which are brought on by these lacerations, especially the cervical lacerations. The perineal lacerations naturally weaken the floor of the perineum and in a way affect the supports of the uterus, causing a great deal of sagging down and other conditions that follow. While this condition is important, there are other more important symptoms which are caused by the cervical lacerations which do not show up at once. The primary symptoms which follow a cervical laceration are those of hemorrhage. If there is a deep tear through the artery you will get a severe hemorrhage. These cases should be repaired at once. Most gynecologists, I believe, take the position that unless you have profuse hemorrhage coming from a laceration or tear of the cervical artery, you should not take the time to repair such cases, because if these patients are left in bed for a sufficient length of time most of them get up. If left in bed two or three weeks, most of these cervical lacerations will heal without surgical intervention. I really believe that fifty per cent of the women who have had children are carrying around chronic pathology and symptoms from cervical laceration, and a high percentage of those do not know they have cervical lacerations or any pelvic trouble whatever. They will complain of neuralgia in the back, intercostal neuralgia, or pain in the head. The typical uterine headache which is complained of is not always from a uterine cause. It is very frequent

this country is to use the buried suture method—in cervical lacerations alone. I had this forcibly impressed upon my mind several years ago, at which time I kept track of a series of cervical repairs in which I saw many nervous symptoms clear up from the repair of cervical lacerations. Some of them were not very deep lacerations. There has been some dispute as to how deep a cervix may be lacerated without becoming pathologic, producing symptoms, and requiring repair. Some of the lacerations that are very superficial in the cervix, will cause reflex nervous symptoms, give the patient headache and backache, and cause mental symptoms. Those cases clear up repeatedly following repair of the cervical lacerations. Of course, it is easy to see, if you have a large bilateral laceration or a stellate laceration in which you have hypertrophy of the cervix and ulceration, why it should be repaired. But some of the milder forms of lacerations cause peculiar nervous symptoms which will clear up by the repair of these tears. Therefore, I think it is very important for the general practitioner, especially, who has patients complaining of headache, backache, neuralgias in different parts, and many hysterical symptoms, not to be too timid about asking patients to have an examination to see whether or not they have a cervical laceration. Such women will frequently have that and that alone. Very frequently this simple pathology will develop until there are infections higher up, such as salpingitis, cystic ovaries, and so on, which follow a simple cervical laceration.

Dr. Pride (closing): There has been quite a discussion among obstetricians as to the proper time to repair the cervix and the perineum when lacerated. Hirst, on the one hand, says one week later is the time, and he fortifies his position by citing hundreds of cases that have been repaired without any bad results—in fact, the results were better than in those patients who underwent immediate repair. That may be true, and he bears it out, because I was with him for two years, during which he did that very thing. The seventh day after delivery, every patient who had been delivered seven days previously was given ether and the cervix and perineum repaired. That is all right where you can control the patient, but we certainly cannot do that very well here. When you a week after delivery ask a patient if she will take an anesthetic for the repair of her cervix or perineum, she will want to know why you didn't do it in the first place. She will say that Mrs. Jones was repaired and is all right—probably not, but the impression is there just the same. We have to do immediate repairs, and as a secondary repair it must be done some four or six weeks later.

Dr. Black brought out the fact that these women should be examined later, which is one of the

most important things that we should impress upon our patients today; then if there is a laceration, you will know about it, tell her about it, and some other doctor will not have that privilege.

A patient from Mississippi came to me not long ago with a very severe infection, a perimetritis caused from a bad laceration of the cervix. She was in such condition at the time that the doctor could not repair it; she had to wait about six or eight weeks, and then have the repair work. If she had been in a hospital at that time, repair could have been made and she would not have had this infection. When medical students ask when we should repair, I always say, repair immediately. I made that a question for examination—that is, the best time to repair the cervix and perineum is at once, and nearly always one of the students will say that the best time is a week later, but I insist that the only time you can repair these lacerations is immediately after delivery. Repair of the cervix must be done under aseptic conditions, as Dr. Jelks suggested, and the patient should be in a hospital, if possible, under aseptic conditions. Of course, repair of the cervix in the private home, where things are not convenient, would be out of the question.

I was glad to hear Dr. Baird bring out the fact that there is much trouble brought on from lacerations. There is not a week that passes that I do not get cases of cervical lacerations causing headache, backache, leukorrhea, and all the symptoms we usually trace to a misplaced uterus. A misplaced uterus does not cause half as many symptoms; in fact, a uterus which is misplaced causes very few symptoms. We find these cases of cervical lacerations causing more symptoms than we do a misplaced uterus. These patients suffer with headache, backache, pressure, leukorrhea, pain on standing long, and we think these symptoms are possible due to some condition of the uterus. On account of their very nervous condition, these patients oftentimes go to internists and their stomachs are examined; their eyes are examined for headache; their teeth are examined, and then they go to a gynecologist and obstetrician to find their trouble is due to a laceration of the cervix.

### LIGNEUS PHLEGMON OF THE NECK (RECLUS)—REPORT OF A CASE IN A BOY OF EIGHT YEARS.

By R. H. Perry, M. D.,  
Nashville.

In 1893 Reclus of Paris described a form of chronic neck phlegmon, which he believed to have been hitherto undescribed, and which

he characterized as woody or ligneus phlegmon on account of its wood-like hardness. According to his observations, this condition occurs usually in men over fifty years, who are depreciated in health. A board-like infiltration slowly develops, involving the front or sides of the neck. Many weeks may be passed in the development of this condition. Fever and pain are absent, and the skin over the involved area turns bluish or wine-red in color. Constitutional disease is absent. After several weeks oedema develops and small foci of suppuration appear.

Reclus does not consider woody phlegmon a definite morbid entity, but that it is a form of anatomic reaction which can be produced by any pathogenic germ or fungus of low virulence. One of his cases showed a "diphtheritic bacillus of lowered virulence," and the condition quickly yielded to anti-diphtheritic serum. Focal infection in the mouth makes the neck the usual location, although this form of phlegmon also occurs in the lower abdomen, as during the progress of chronic appendicitis, after herniotomy, and cases have been reported as occurring in the gluteal region, foot, etc.

Since Reclus described this condition numerous isolated cases have been reported, but the literature on the subject is meager, and surgical text-books contain only a brief mention of the condition. Reclus' youngest case was a boy of 15 years. An account of the youth of the patient, the following case of woody phlegmon of the neck is of interest:

#### Case Report.

G. B., a white boy of 8 years, was brought to me on August 20, 1918, on account of a swelling in the left cervical region. His family history was unimportant. As an infant he had been artificially fed, and had never been very robust. At five years he had whooping cough, but had never had any other childhood diseases. At the sixth year the tonsils and adenoids were removed. The mouth had been neglected and several teeth had become carious. On the left side of the neck for the past year there had been a small mass. Ten days previous to the time he was March 10, 1919.

/Read at the Nashville Academy of Medicine,  
March 10, 1919.



brought to me this mass had begun to enlarge, and the increase in size had been rapid.

On examination, the patient was found to be an emaciated, anaemic, sickly-looking child. In the left cervical region extending from the ear to the clavicle was a hard, immobile, tense and brawny mass, which was not tender or red. Above the right clavicle and in the left axilla were slightly enlarged glands. The throat was clear, but there were several decayed teeth. Nothing abnormal was detected in the examination of the heart, lungs or abdominal viscera. Temperature, 99 degrees. The urine was normal, and the sputum negative. The leucocytes numbered 9,200, with 68 per cent polynuclear cells. No abnormal cells were found in the blood picture. Wasserman test negative. A von Pirquet tuberculin test gave a slightly positive reaction.

A tentative diagnosis of tuberculous glands was made, and owing to the child's weakened condition the mother was advised to wait for a while before any operative interference was attempted. As soon as possible the needed dental work was to be done, and he was given iron and cod liver oil. The mother was also instructed to keep a close watch on the swelling, and if there was any increase in size to bring him back immediately. This she did in ten days, with the statement that two days previously the swelling had suddenly extended so as to involve the whole neck.

At this time it was found that the swelling extended from the lower jaw to the clavicles, so as to involve the whole neck. There was marked oedema of the head, both eyes being entirely closed. The oedema also extended well down on the chest and back. The mucous membrane of the mouth were oedematous and saliva constantly dribbled. There was marked dysphasia and dyspnoea. The extremities. The case was referred to Dr. W. A. Ration 50. Both the heart and lungs were clear, and there was no swelling of the extremities. The case was referred to Dr. W. H. Bryan, who advised an immediate operation, permission for which was refused. The patient was put on tincture of iodine, 14 drops every four hours, but two weeks of this treatment gave little results.

Repeated urinalysis did not show any albumen or casts. The red blood cells numbered 4,800,000, and the leucocytes on numerous examinations never went about 9,200. Radiographs of the neck and chest did not show anything abnormal, except the large oedematous area. Dental films showed cavities in the teeth rayed, absorption of the roots of the deciduous teeth and the formation of the crowns of the permanent teeth, but no evidence of pus or exposed pulps. A blood culture was made by Dr. Herman Spitz, who reported the finding of an aerobic, Gram negative, non-motile, non-spore forming, short slender bacillus. This he regarded as a saprophite gaining entrance to the circulation from the lesions around the teeth. An autogenous vaccine made from this organism was given, but without any results.

The temperature from the first was rarely over 99 degrees, only once going to 103. The respirations were always rapid, 36 to 50, but the lungs at all times were clear. The oedema of the face became so marked that the child himself said he "looked like a pig." The indurated area in the neck first of a bluish color, gradually assumed a port wine red, which persisted throughout the course of the disease. This red color extended down onto the chest to the nipples and also on the back to the spines of the scapula. There never was any pain. The oedema gradually lessened so that the face assumed something of its normal contour, but the swelling in the region of the neck, which was now of a wood-like hardness, remained. The head could not be turned except by moving the whole body. Over this indurated area scaling occurred frequently, and small foci of suppuration appeared. Local applications were never of any avail.

On September 20 the dyspnoea became so marked that a tracheotomy seemed imminent, but he rallied without it. Emaciation became progressively worse and the patient finally died from exhaustion on October 31, 1918.

Permission for operation was steadily refused throughout the course of the disease. The only medical treatment given consisted of the use of iron, malted cod liver oil, and stimulation with caffeine and whisky. Also the

administration of tincture of iodine and vaccine, as previously mentioned.

In the diagnosis of this case one must consider several other conditions. When first seen the diagnosis of tuberculous adenitis was made, first, on account of the patient's age, which corresponded with the most frequent age incidence of tubercular gland disease in childhood; secondly, that the mass had been perceptible for some time, and was located in the cervical region, which is the most frequent site of involvement in children; and thirdly, from the fact that the glands in the right cervical region and left axilla were also slightly enlarged. The positive von Pirquet test and the low white count also suggested tuberculosis rather than some other form of infection. However, tuberculous glands would not have enlarged so markedly without suppuration occurring. If the glands had become caseous or fibrous tissue formed the whole neck would hardly have been involved. The wood-like hardness and wine-red color also would not have persisted.

Another possibility in this case is Ludwig's angina. This disease also causes a brawny swelling between the chin and hyoid bone. The swelling is painful and tender, and the skin is reddened. The tongue is pushed up in the mouth and is itself swollen. The temperature ranges high, occasionally rigors occur. The suffering is acute and death soon occurs unless prompt and energetic surgical intervention is permitted.

The negative family history, the negative Wasserman test, and the absence of the usual signs of syphilis exclude this disease as a possibility. Likewise malignancy is excluded by the rapidity of development of the whole neck involvement and by the presence of an inflammatory process.

Hodgkins' disease is also to be thought of. In this disease, however, glandular groups in other parts of the body are involved simultaneously or in rapid succession.

Carious teeth may furnish an avenue of entrance to the ray-fungus, with the development of deep subcutaneous nodes, tumors or swellings livid in color. These tumors, however, finally burst, forming fistulous tracts giving exit to a sero-sanguineous or bloody and purulent fluid. Around the orifices of the

sinus or sinuses are cutaneous and subcutaneous nodules which are tender and painful. None of these features were seen in this case.

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### THE MALARIA PROBLEM OF THE SOUTH.\*

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By H. R. Carter,

Assistant Surgeon-General, United States  
Public Health Service.

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The hot countries are pre-eminently the home of protozoal infections, and in the southern parts of the United States one such disease, malaria, stands foremost for the injury it does. In that section not one of the bacterial diseases is in its class in this respect, not even excepting tuberculosis. And here, let me say, that in making this statement, I am only considering such parts of the South (and Southwest) in which malaria prevails to such an extent as to create a serious sanitary problem. In many sections of the South it is no problem at all; in many others it is a very minor problem; but in those sections where it is really prevalent, the question of malaria easily constitutes the most important sanitary problem with which we have to deal. There it stands first on the list for the injury which it does the community.

It is true that malaria does not give the highest or even a high mortality. Tuberculosis, pneumonia, and typhoid fever run well above it. But is recorded mortality an accurate measure of the comparative injury done by disease? If it were, tonsillitis and Riggs disease would be considered harmless. One of our Southern health officers says: "We must direct our work against that group of diseases which gives the heaviest mortality, because the reduction of mortality is, in the last analysis, the measure of our success." I count him wrong in his standard of success; doubly wrong if he understood "mortality" to be the same as "recorded mortality." The recorded mortality of a disease frequently does not indicate its true influence on the

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\*From U. S. Public Health Reports, August 22, 1919, an address delivered at the Conference of Sanitary Engineers, Wilmington, N. C., Feb. 17, 1919.

death rate. This is eminently true of malaria. From its effects, physical and economic, in lowering the general vitality of a community, it is a causal factor in many a death in which it is not the terminal factor, the one recorded as the "cause of death." Mortality statistics do not, then, give the proper weight of this disease as a cause of death.

It is not in its death rate that the gravest injury of malaria lies: It is in its sickness rate, in the loss of efficiency it causes, rather than in the loss of life. One death from pneumonia ordinarily corresponds to about 125 sick days—work days lost; one from typhoid fever to 450 to 500 sick days; one from tuberculosis to somewhat more than this among whites, decidedly less among negroes. A death from malaria, however, corresponds to from 2,000 to 4,000 sick days. This loss of efficiency may really be doubled or trebled, for the man infected with malaria is frequently half sick all the time.

And it is the amount of malaria when it is bad which appals. If one per cent of the population is stricken with typhoid fever, it is an epidemic, and a bad one. Contrast this with 40 per cent to 60 per cent of a population per annum affected with malaria—and I have seen outbreaks with 90 per cent—and you gain some idea of the importance of this disease. The loss of efficiency caused by malaria in the country of the malarious section of the South is beyond comparison greater than that caused by any other disease, or even by any two or three diseases combined, including typhoid fever and tuberculosis.

I am not speaking at random. You have never heard of the prevalence of typhoid fever determining the failure to locate industrial plants. Yet, at one place where power from a hydroelectric plant was abundant and very cheap, the manager told me that a number of options for cotton mills, wagon factories, etc.—options which had been taken because of the cheapness of the power—had been abandoned because of the prevalence of malaria.

Has the presence of tuberculosis ever prevented a real estate transaction? I know of a deal involving the purchase of a large tract of land for colonization—a tract valued at about a half million dollars—not consummat-

ed on account of the prevalence of malaria in that section, and there was not much malaria, either. You have not seen homes abandoned because of either tuberculosis or typhoid fever. I can assure you that I have seen them abandoned on account of malaria.

The importance of the problem, especially as compared to that of other preventable diseases, has not been recognized, and the reason is plain. The sections in which malaria is not prevalent are, partly for that very reason, the most progressive, and hence, have the best paid and most efficient health organizations. The sanitarians of these organizations are naturally the leaders in sanitary thought for the United States. Malaria is not among their problems, or if so, it is a minor one, and they lay stress on other problems. Influenced by their writings, the comparative importance of health problems for the South and Southwest has not been rightly appreciated by the sanitarians of these sections. I say has not advisedly, for it is coming to be appreciated now.

Another thing which has obscured the sanitary importance of malaria is that the most progressive local health officers of the South, and, indeed, everywhere, are those of the cities. These men write and speak at conventions—and they write and speak well—and they profoundly influence the sanitary opinions of those who meet them. Now, malaria is not a city disease and it is not one of their problems, and those men in the South itself to whom others look for sanitary leadership are not directly concerned with the most serious problem of the rural districts. I speak from personal knowledge.

Yet another reason is to be found for the nonrecognition of the importance of the malaria problem in the fact that we are so used to malaria. In some sections people are expected to have chills "off and on" for the early years of life, and the occurrence of this disease is looked upon as a matter of course. After childhood an immunity is acquired and the disease is less common, but the child has been handicapped during the time he was growing and getting his education.

#### Area of Prevalence.

One encouraging fact about malaria in the United States is that the area of prevalence,



certainly the area in which it is severe, is lessening. In eastern North Carolina there is not now one-third of the malaria there was in the eighties. I think the same is generally true, though, perhaps, not to the same degree, in all of the cotton states. On the other hand, it has increased in some sections of these and other states.

The reasons for this decrease are interesting and instructive. Primarily, the decrease is due to the rise in the price of cotton and the fall in the price of quinine. The first has led to prosperity for the farmer—and all are farmers here; to better living conditions; to the clearing and draining of more land; and to better clearing and better drainage. (I count drainage, especially tile drainage, the key to the rural malaria problem.) The action of the second causative factor is obvious.

The lessening of malaria due to the prosperity of the farmers reacts, through sequence, favorably on itself. As the people become healthier their energy increases and they become still more prosperous; consequently, more land is put in cultivation and drained, cultivation is cleaner and drainage is better, the houses are screened, and malaria is thus further reduced. And so it goes, forming an endless chain of improvement in which health and prosperity are alternate links. This I was happy to see in many places in the South and Southwest, and I noticed it especially in North Carolina.

### Conveyance.

Without going into the question of the conveyance of malaria by the mosquitoes, I will lay down a few postulates:

1. Malaria is caused by parasites in the blood of the person suffering from it. Persons with such parasites in their blood are infected with malaria.

2. Those parasites were injected into the person by the bite of a mosquito infected with the parasite. Man receives infection in no other way.

3. The mosquito herself received this infection by having previously fed on a person whose blood contained such parasites. The mosquito acquires infection in no other way.

4. The only mosquitoes which are infected with malaria are those of the genus *Ano-*

*opheles*, and not all species of *Anopheles* are efficient carriers of malaria.

The change from man to the mosquito and back again is necessary for the continuous existence of the parasites, just as necessary as that change for the germ of wheat by which it is alternately in the ground and in the air. The malaria parasite cannot live indefinitely in the mosquito; it cannot live indefinitely, although much longer, in man. Without this continued change between the two hosts, the parasite dies. This, then, gives us our clues for malaria control: (1) Keep infected mosquitoes away from man; or (2) keep mosquitoes away from infected men. The control of either host—the mosquito or the man—will eliminate malaria.

### Methods of Malaria Control.

Briefly, our methods of malaria control aim to—

1. Get rid of *Anopheles* mosquitoes—no other kinds make any difference in malaria.

2. Prevent the access of *Anopheles* mosquitoes to man.

3. Free all persons in the community from malaria parasites.

4. Protect persons against infection by means of quinine.

So far as the first and second points are concerned no further explanation is necessary.

So far as the third point is concerned it is clear that if all men were free from malaria parasites there would be no way of infecting mosquitoes, and unless infected they cannot transmit malaria.

Finally, if men are put in such a state that they cannot develop malaria even if bitten by mosquitoes, naturally malaria will be controlled. This it is attempted to do by means of protecting or immunizing doses of quinine.

The first two methods aim at control of the mosquito; the last two, control of the human host. The first and third are community methods; the second and fourth individualistic, but they overlap in this respect.

Which is the best method? There isn't any best method; or, rather, each one of them may be best under certain conditions. Let me explain: Theoretically, the first method—getting rid of mosquitoes—is absolutely ef-

fective. Moreover, it has been proved at Port Said, at Panama, and at a dozen places in the United States, that if the production of *Anopheles* mosquitoes is controlled, malaria is controlled or eliminated. Furthermore, it is always physically possible to control the production of these mosquitoes. Why, then, should we consider any other method? Because it is not everywhere that this production can be controlled within the allowable economic limit.

I will not go into the methods of controlling *Anopheles* production. They rest on the destruction of breeding places by (a) removing, by draining or filling, the water in which they breed, or (b) by rendering it unfit for breeding, by current, oil, larvicides, fish, etc., or a combination of them.

Although not the only method of malaria control, and in some cases not the advisable method, the control of *Anopheles* production is the one depended on in most of the work heretofore done in the South, quite frequently with screening (itself an antimosquito measure) as an adjuvant. In my opinion, whenever the control of *Anopheles* production is not prohibited by the cost, it is the method of choice. It has these advantages:

(1) The main work is done once for all and the upkeep is usually small.

(2) The work is done with materials—earth, water, etc.—and not with people. Health officers will know that no material is so refractory to work with as people.

(3) Both the installation and the upkeep are carried out directly under the supervision of the health officer, and the result cannot be vitiated by individual carelessness, crankiness, or bad faith.

Compared with the individualistic methods, this method is like a municipally-sterilized water supply compared with individually-sterilized drinking water. The former gives the heaviest cost, but it is the least troublesome and, to the community, is the safest. It is very generally applicable to villages and thickly settled communities; less frequently applicable to sparsely settled districts. The reason is obvious: The expense of control of mosquito production in a community is roughly proportional to the area of breeding which lies within the limits of flight to the dwelling

section of that community. The benefits of such control, and hence the funds allowable to spend on it are proportional to the population. It is obvious, then, that the expense per head for this work increases and decreases inversely as the population per unit of area.

In practice where we have tried it for villages and closely settled communities it has not proved costly—at least, I hope you will not think so—for the results obtained. Let me give you some figures:

Roanoke Rapids, N. C., is a mill village, or rather a group of mill villages, with a total of over 4,000 population. Prior to the malarial work the population was continually changing. Wages were good, work was abundant, and people came, but they developed malaria and would not stay. The mill managers estimated the efficiency of their employees at from 40 to 60 per cent during the four unhealthful months. During this time machines were constantly idle. The mill physicians, who attended employees without charge, averaged during the summer months for 1912 and 1913, fifty calls per day for malaria. During 1914, the first year of malaria work (control of mosquitoes was depended on), there were still a few cases (33) of malaria, relapses from 1913. The efficiency ratio rose to 90 or 95 per cent, and the average number of calls for malaria for the same months was three daily. In 1915 there was no question of efficiency to be considered—it was normal. The average of doctors' calls for malaria was one in three days. All these were in newcomers and were believed to have been contracted elsewhere.

One of the millmen writes: "The money spent in your campaign against malaria here gave the quickest and most enormous returns I have ever known from any investment." It did pay in the first year from 100 to 400 per cent.

The cost here was 80 cents per head for the first year and 27 cents per head for the second year. The efficiency of the mill was raised from 50 to 100 per cent (normal).

Wilson, Va., is a community only moderately thickly inhabited, not a village. It has been subject to malaria for many years, ever since it was settled, I presume, and of late years the conditions had been getting worse.

In 1915 they were bad. Every house I visited in early October had a sick inmate and in some houses there were several. No record of cases was kept, but there were five deaths in August, which should correspond to at least 500 cases. The work was expensive and the community, poor on account of malaria, had to be helped. With what was done by the railroad (partly for economic reasons, because the work pays for itself), it cost about \$12 per head. Exclusive of this the cost was \$3.40 per head, which is very high. Yet, only one single case of malaria, a relapse, appeared there this year, and I judge the work was worth its cost. It is the best result I have ever known. Next year it will not cost over 25 cents a head—except for repairs to screening, which should be done anyhow, for comfort's sake. Wilson was costly because the area to be handled was sparsely settled and it was, therefore, not a good place in which to make a showing. Now let us turn to a larger town, where we can make a better showing in cost per head.

Crystal City, Mo., has 8,000 population. The expense here was \$7,080. An unnecessary error in cutting the ditches made the cost somewhat greater than it need to have been. So far as the results are concerned the health officer states that malaria was reduced from 80 to 90 per cent. A sickness-insurance company paid in this town, in 1915, benefits to 12.5 per cent of its policyholders and in 1916 to 2.9 per cent. This would give a reduction of from 75 to 80 per cent which, counting the usual relapses, should mean a reduction of from 90 to 95 per cent in cases contracted in 1916. The expense was 88½ cents per head, though it should have been decidedly less. Next year it will be not over 25 cents per head.

I could cite you a number of cases like these. In Crossett, Ark., for example, there was a reduction of malaria for the summer of 1916 from 1,650 cases to 288, which is equivalent to a reduction of 82½ per cent. The September ratios, when most of the relapses are eliminated, are 600 and 46—a reduction of 92½ per cent. This reduction was still further increased in 1917. Derivaux, of the United States Public Health Service, and Taylor, of the International Health Board, did this

work, which was financed by the Rockefeller Foundation. It is as good work in malaria as had ever been done anywhere.

I will not have time to more than mention the other methods. Screening has been used where control of production of *Anopheles* mosquitoes was impracticable, and has given good results, but not so good as those obtained from the latter method.

A demonstration of the third method, that of freeing all persons in a community from malarial parasites, was undertaken in 1916 and 1917 by the Rockefeller Foundation at Bolivar County, Miss. This work was carried on under the supervision of Dr. Bass, of New Orleans, and Dr. Leathers, the health officer of Mississippi. I understand that it was successful, but do not know the details.

Quinine immunization has not been tried out scientifically on a large scale in the United States, for excepting possibly the work done in Bolivar County above alluded to nowhere in the United States has this method been extensively employed.

Under our political organization the Federal Government cannot do antimalaria work as described above except as a demonstration. Demonstrations we have made, and it has been our aim to show communities:

- (1) That control of malaria is feasible;
- (2) That control of malaria is profitable;
- (3) And finally, how to control malaria.

When the above is known and really believed, the people will go to work, each unit for itself, and the problem of malaria control will be in the way of solution.

Quite a number of demonstrations were made by the United States Public Health Service during the three years preceding the war. The Service makes the malaria survey, plans the work in detail, and supervises it as much as is necessary or possible. The communities mainly bear their own expense, the industrial companies in them contributing the greater share. One state (Virginia) has helped finance demonstrations carried on within its bounds. These demonstrations were made at Wilson and Emporia. No other state, so far as I know, has done so. The Rockefeller Foundation, through the International Health Commission, has financed two demonstrations in Arkansas. They have all



been successful, eminently so, and not costly. They were made to prove the value of anti-mosquito work for the control of malaria in the United States; and, if I am a judge, they have proved it.

The advantage of a demonstration in a community is that, if it be a real success, it induces neighboring communities to emulate it and may lead to a very considerable amount of malaria-control work. No community has ever abandoned the work when once it had felt its benefits.

In addition to the demonstrations spoken of, we have visited many places as consultants, so to speak, making malaria surveys—to get a knowledge of the condition of the community and thereby determine what is needed—then giving advice and drawing up plans for the control of malaria, but without following out the actual work to the extent of making it a demonstration. Some of these communities do good work; some do nothing. We have now, however, pretty well learned from which communities results can be obtained, and do not lose much time on the others. We did not know at first.

Some of these consultations have been made in connection with rather extensive drainage projects, in order to control malaria as much as possible while the land was being made suitable for agriculture. Some have been made in connection with rice culture and have presented most difficult problems in some places. Some have been with people contemplating the construction of hydroelectric plants, the problem being to minimize the amount of malaria (and consequent damage suits) caused by the impounded waters. Sometimes this, too, presents considerable difficulties and may involve much work, but it is exceedingly important and, I am sure, profitable, from a sanitary standpoint.

There is not time to discuss the research work which we have done on this problem; the statistics of morbidity we have gathered, the mere gathering of which has now and then been a factor in inducing states to make malaria a reportable disease and become interested in anti-malaria measures; the blood-index work to determine the degree and the nature of the infection of communities; the problems which have come up from time to

time, the solution of which was necessary to progress. I do not need to tell you who have worked with mosquitoes how many problems of botany, or entomology, of agriculture—yes, and of geology and meteorology—come up in working out the problem of the control of mosquitoes. And besides all these, we have those in human pathology and the action of drugs in man, because the control of mosquitoes is only one of the methods of controlling malaria. Yet, I think I must mention the determination by Mitzmain,\* of the Public Health Service, that the parasites of malaria did not live through the winter in the mosquitoes which hibernate in central Mississippi.\*\* This determination rendered logical the demonstration undertaken by the Rockefeller Foundation in that state which otherwise had been illogical. That all three of the common varieties of *Anopheles* in the eastern part of the United States are infectible with and can convey malaria has been shown by King, of the Entomological Bureau, and Mitzmain. This is a most important thing and one which we did not know before.

A study of the effects of large bodies of impounded water on the production of malaria has been carried on for the past three years. Valuable data have been secured and methods of minimizing the effect, when it exists, have been worked out and applied.

Nor is there time here to more than allude to what has been done to spread a knowledge of malaria and its control among the people. Much has been done in this matter by bulletins, leaflets, lectures, lantern slides, exhibits, etc., and it is bearing some fruit. I pin my faith, however, to two educational methods: (1) Teaching the basic facts of malaria conveyance and control in the schools of the malarious districts in order that the children may grow up with a definite and correct knowledge on this subject; and (2) the demonstration of malaria control. For the adult population there is no method of equal educational value.

\*Mr. Mitzmain's name has been legally changed; it is now Bruce Mayne.

\*\*\*"Is Mosquito or Man the Winter Carrier of Malaria Organisms?" M. Bruin Mitzmain. Public Health Bulletin No. 84, 1916.

## THE GOVERNMENT PLAN FOR THE CONTROL OF VENEREAL DISEASES.

(Note.—A discussion presented at the eighty-sixth annual meeting of the Tennessee State Medical Association at Nashville, April 8, 9, 10, 1919.)

By Dr. Robert C. Derivanx,

Past Assistant Surgeon, United States  
Public Health Service, Nashville, Tenn.

In view of the introduction before the General Assembly of the State of Tennessee of a bill having for its purpose the prevention and control of venereal diseases in the state of Tennessee, it may be desirable to present before this body a discussion of this contemplated legislation and, at the same time, present an outline of the Government's activities with reference to this problem in the United States as a whole.

The urgent need for legislation covering the as yet untouched problem of the venereal diseases in Tennessee is a matter that needs emphasis only by mention before a body of medical men in this state. In this state, the venereal diseases are now specifically exempted from the class designated as dangerous to the public health and consequently reportable, and, for all practical purposes, have no status of official existence here whatsoever; plainly, then, no action by the health authorities is possible until this fundamental and greatest need will have been rectified, and the character and scope of Tennessee's problem specifically ascertained before suitable measures may be applied. In this work, and more particularly in its institution and organization, the Government is prepared to participate and lend its every assistance, including direct financial aid.

The point of view of the Government with reference to the general venereal disease problem in the United States is one that has developed consequent to experiences gained and information obtained in connection with mobilization of the armed and industrial forces essential to this country's interests during the recent world war. Examination of the military personnel developed astounding forces essential to this country's interests during the war, and showed further that the

bulk of the problem lay, not in the military, but among the civilian population. Steps were at once taken for the institution of appropriate measures for organized attack on this situation, and included the passage, on July 9, 1918, of a congressional act entitled, "An Act Making Appropriations for the Support of the Army for the Fiscal Year Ending June 30, 1919," under Chapter 15 of which act, known as the Chamberlain-Kahn bill, there was created an Interdepartmental Social Hygiene Board, and a Division of Venereal Diseases in the United States Public Health Service. Section 6 of the Chamberlain-Kahn act provides for the allotment and direct expenditure in the various states of the Union of \$1,000,000 each year for two fiscal years, beginning with the year commencing July 1, 1918, and this upon compliance with certain requirements or regulations promulgated by the Secretary of the Treasury. These may be briefly summarized as follows:

(1) The various states, in order to receive the sum to which they are entitled, must have a law or State Board of Health regulation requiring the reporting of all venereal diseases.

(2) An officer of the Public Health Service shall be assigned to each state receiving an allotment for the general purpose of co-operating with the state health officer in supervising the venereal disease control work in the state.

(3) Local or legislative funds that may be available shall be used by the state or city health authorities having jurisdiction for extension of the work, and such funds must not be conserved through the expenditure of the funds that are allotted by Congress through the United States Public Health Service.

(4) In extension of the educational measures the state's health authorities and its bureau of venereal diseases shall exert their efforts and influence for the organization of a state venereal disease committee for nationwide venereal disease control.

(5) The state health authorities shall take such measures as may be practicable for the purpose of securing such additional legislation as may be required for the development of control of the spread of venereal infections.

(6) The state allotment shall be expended

along general standard lines for all states and in accordance with an accounting system to be forwarded by the Interdepartmental Social Hygiene Board. This provides that 10 per cent shall be devoted to administration, 50 per cent to treatment, 20 per cent each to repressive measures and to educational measures. (This distribution is provisional and subject to modification after conference and agreement between each state and the United States Public Health Service as to best meet the needs in the particular state.)

During the fiscal year beginning July 1, 1919, the payment of a state's allotment is conditioned upon the expenditure of a like amount by the state in the prevention of venereal diseases. It might be mentioned here that eighteen states have already had the necessary laws passed to enable them to participate in the Federal funds.

The application of the foregoing is of a special and peculiar importance to the state of Tennessee, where, as stated, venereal diseases have been specifically excepted from the list of reportable diseases. By the provisions of the Chamberlain-Kahn act, Tennessee's allotment of Federal funds is to be \$23,755, provided that the referred to requirements will have been met.

A measure which has been introduced before both Houses of the Tennessee Legislature establishes, first, that syphilis, gonorrhea, and chaneroid are communicable diseases, dangerous to the public health, and, as such, are to be reported. The act declares the failure to report these cases is unlawful, and punishable as such. Reports of cases of venereal diseases are not to be made by name, but in code or by serial numbers, as this act is not intended to in any way disturb the confidential relations which exist between the venereally infected patient and his physician. Record is to be kept, as is now done, by the physician of his cases, including those of venereal infection, though the name of the patient is not to be included in the report, unless for some especial reason, as will be later shown, it may be desirable that this be supplied to the health authorities. This may become necessary should a patient, after careful advice and instruction from his physician, persist in acts whereby his infection may be

disseminated among others and the matter become one having serious public health aspects.

Another section of the contemplated act provides that county and municipal health officers and various agents of the county and state boards of health may make suitable examinations, when, in their judgment, these may be necessary for the protection of the public health. Penalties for non-compliance with the provision of the act are contained in another section.

Given this fundamental legislation, a program for systematic and an efficient program looking towards venereal disease control may be logically begun. In the presence of conditions as they now exist, venereal diseases have no official status in Tennessee—in fact, technically they do not exist. Under the provisions of the state law that is asked for, physicians will be required to make reports of all cases of venereal disease infection by code or serial number; they will be required to instruct their patients as to the nature of their disease and to refrain from any acts which may render some other person liable to the disease; they will see to it that their patients remain within the latitude of these instructions, and they are asked to co-operate with the public health authorities as action may be necessary in the case of persons violating instructions and knowingly disseminating venereal infection.

The balance of the control program includes provision for the establishment of detention facilities for prostitutes and for the diagnosis and treatment of active infections, educational work, which will find its most far-reaching influence in years to come, will be carried on through lectures, distribution of literature, the use of moving pictures and through the active co-operation of churches, schools, commercial organizations, civic clubs, professional associations, etc. These latter activities have only been mentioned and are not gone into in detail, as the features which will have the greatest interest to the medical profession are those primarily concerned with the clinical and public health aspects of the situation.

The absolute necessity for realization of the enormity of this problem and its urgent need for attention in this state are sufficient-



ly well known to its physicians to insure their active support of this legislation and their whole-hearted co-operation when it shall have become a part of Tennessee law. Very good results are being reported from the states in which similar activities have been begun, and there exists no doubt that this important phase of the preservation of American citizenship will receive adequate consideration in the program for reconstruction and betterment which has grown out of part of the world war.

#### DISCUSSION.

Dr. John L. Jelks, Memphis: I appreciate the remarks of Dr. Derivaux. I feel that this is a step in the right direction, and a step that Tennessee should not hesitate to take, particularly when Tennessee is not altogether the last state to take it. Much objection has been raised by some who are afraid of establishing a precedent. Therefore, gentlemen, I want to make a motion to the effect that the Tennessee State Medical Association endorse and urge the enactment of this law; public welfare and posterity demand it.

It seems fitting, gentlemen, that those men who are to discuss this subject in our state capital should know that medical men, who are looking after the welfare of them and their families and posterity, are not only endorsing this measure, but demanding its enactment for public welfare, not for medical welfare.

There is another very important point with reference to this: It has been called the "Doctors' Trust Bill" by some who do not know, whereas the medical profession of this state could well afford to pay fifty thousand dollars a year to defeat this very legislation. An enormous benefit must accrue from the enactment of these laws which will control the venereal diseases, and it would be appalling to see a year hence the number of cases of venereal disease within our midst, and it will be a gratification to all of us to know that when some young man is being treated by you for gonorrhea and he tells you that he is going to marry one of your dearest friends, you can give him the proper advice not to do so until he is cured. Such a thing has occurred in my own experience and therefore I know. You may beg that man with tears in your eyes not to marry the daughter of your particular friend, although your advice may not be of any avail. You may tell him that if he marries that girl he will be the means of driving her into her grave, and yet he may do so despite your efforts and your advice. So it behooves the state to have some control over these young unscrupulous characters who scatter their disease.

Dr. J. J. Waller, Oliver Springs: I heartily join other members of the profession in adopting any method which will suppress this common evil. I do not see the proposition clearly as yet as to how this matter is to be brought about if the name of the party is not to be revealed. To what committee or authority should we make the report, and what can they do after they get the report? If we work this out somehow and get the co-operation of those who have authority to control these things, we can accomplish a great deal, but we want to be a unit on it. It seems to me that one feature of withholding the name, so that nobody knows it but the doctor and patient, is objectionable. I think we ought to use a good deal of intelligence in working this thing out to carry the point and at the same time preserve our relations to our patients, our families and make the matter effective. We have got to implicate somebody. It is too much like the vital statistics law. There are features in it that are too weak. It says the baby shall be named within ten days after birth. I find people who will not do it, and I know of no way of making them do it. We find there is a contrariness on the part of some people when we ask them to do things. Let us study this matter and act intelligently on it.

Dr. John L. Jelks, Memphis: We had this law enacted first in the city of Memphis, because no one reported venereal diseases. We then proposed to go to the state and get a state law passed. There will be a penalty attached to and imposed upon the man who refuses to report venereal diseases, or if he refuses to report typhoid fever as well. There will be a penalty imposed on the individual who has the disease if he does not conduct himself properly. He must behave himself and take proper treatment. If he does not, his name may not be withheld and he may be prosecuted.

Dr. William K. Sheddan, Columbia: The medical profession of the country has been striving for legislation and legislation, but what have we accomplished? I have in my library an old book which deals with the history of prostitution and efforts at its control. It also gives the history of the views of different men for the control and suppression of venereal diseases in one way and another. While I am perfectly willing for the Legislature to enact a law regarding the control and spread of venereal diseases, I do not think it is a good idea for this state association or any medical organization to recommend and endorse such a measure from the information I have gained in following the results obtained and tabulated by Saenger of the efforts made by various countries. Starting back to the history of earliest civilization, measures for the control and regulation of the venereal diseases have resulted in a worse state of affairs in the country and everywhere

else. Let us go back to the Civil War. Some of you in the employ of the United States Government may remember how in various cities in which the army was quartered conditions grew much worse. If the conditions you impose on people with venereal diseases are too strenuous, many of them will go uncared for. I had an experience a few years ago with a bunch of soldiers who showed up in my work with acute gonorrhea. They would not report their condition unless they had some complication which necessitated their confinement to bed, such as epididymitis, or something of that sort. They would go along and take chances. These infected men disseminate the diseases more widely; many of them are going about untreated. They are going on without any advice, and my notion is, although I may be wrong, that with publicity we are going to make matters worse.

Dr. Lonis LeRoy, Memphis: I want to take issue with the last speaker on this ground that publicity has been accepted in other diseases and is today carried out in the matter of placarding houses for smallpox, for measles, for influenza, or what not. People strive to guard against publicity. A child is a little sick and the mother says: "I won't have a red card put on my house; I am going to keep quiet and hide it." Publicity is the only thing that is going to do any good in this campaign. By that I do not mean advertising every case in the newspaper, but I do mean that the proper authority shall be advised and be permitted as time goes on to follow up the case.

In this measure we have under consideration the doctor is not expected to report any man's name, or to give it unnecessary publicity, unless the patient flagrantly refuses to take care of himself. The health authorities do not and will not know the name of a single patient. No one knows it but the doctor, and he has simply a record of his cases. In the event that some man whom we unfortunately encounter insists, for example, on getting married, even though he has acute or active syphilis, and is going to do so despite your urging against it, then some one must have authority to step in and prevent him from so doing. This law, when it becomes operative, will do a great deal of good.

It is axiomatic that venereal diseases are contagious. Legally venereal diseases are not contagious, yet we want to put this thing on a foundation where the health authorities may have some jurisdiction, and until a disease is declared to be contagious it is nonexistent. We have got to put venereal diseases in the law, then something must be done.

Dr. Olin West, Nashville: I want, if I can, to put before this association the attitude of the State Board of Health of Tennessee with reference to this most important subject. I want to shoulder all the responsibility that belongs to me

for whatever action I have taken looking to venereal disease legislation in so far as the Health Department is concerned.

If you will permit me, I will go back a little over the subject so that the matter can be thoroughly explained. This movement for venereal disease legislation started with governmental authority, especially with the authorities in control of the army and navy. I have received and have on file letters from the Secretary of the Navy, from the Secretary of War, from the Surgeon-General of the United States Public Health Service, and from a number of other officials of the Government. In addition to that, we have received a great number of letters from individual physicians, and especially from officers of courts and from institutional officials about this matter.

The Congress of the United States was impressed with the necessity for some action with regard to the control of venereal diseases, and in their wisdom passed a bill appropriating the sum of approximately one million dollars for distribution among the states of the Union to be used for the purpose of beginning measures for venereal disease control. Tennessee happens to be one of the states of the Union, and to my notion, the best one of all the forty-eight. (Applause.)

I made a diligent inquiry from other states to ascertain as well as I could what the experience of state boards of health in the matter of venereal disease control, what the probabilities for progress might be, and I was convinced that with all the pressure that was coming from all the departments of the government, with all the pressure coming from many of our own citizens, Tennessee ought not to lag behind and not try to do as much as any other state. I have got a fool notion that just as much protection should be afforded our people as others, and I want to be in the vanguard in trying to give them that protection.

The cold fundamental facts about venereal diseases are these: Syphilis is killing many of our folks and it is maiming thousands of others and putting them in a condition worse than death. I do not think anyone will controvert that statement, and I want to invite your attention to the fact that syphilis kills people just as dead as does appendicitis or any other disease. Syphilis is a relatively preventable disease. Gonorrhea itself is filling our surgical hospitals with patients, and you all know it. The further fact about gonorrhea is that in our School for the Blind, in spite of the use of preventive treatment for ophthalmia neonatorum, we now have more than eleven per cent of the inmates of that school blind as a result of this very disease. The fact further is that we are never going to be able to do anything about the control of any disease until we get the thing be-

fore the people and make them understand what there is known about it. And from those standpoints I believe that it is our duty to try to secure some legislation for the control of venereal disease at least in the cities of the state. In some of our cities or around them we have had the war cantonments and the commanding officers of these encampments have been pleading almost to their knees for co-operation from the state and from the individual cities in the suppression of venereal disease. It may have been stated to you that more than two million days were lost in the army by reason of venereal disease. There is no other disease or any other combination of diseases that has produced any such loss, if you leave out pneumonia due to influenza.

As a result of these facts and others of somewhat similar nature, I carefully, thoughtfully and prayerfully investigated all the measures I could find that had ever been put forward to be introduced into legislatures of the various states, and I decided that the best thing we could do in Tennessee was to try to get some legislation that would enable the State Board of Health, through rules and regulations, to attack this problem in the most feasible way, and that is all there is in the bill that is in the Legislature at the present time.

I have got no fool notions about it. I know of the difficulties that obtain; I know that nobody is going to be able to turn the world over in a day, but I do insist that when situations have developed, such as are occurring in Memphis, Chattanooga, Nashville, and Knoxville, although Knoxville is the holiest of the four, something ought to be done about it.

I received a letter from the Secretary of the State Board of Health of Michigan informing me that Mr. So and So had reported to one of the clinics in that state with syphilis, stating that he got his infection from a certain woman and at a certain street number in the city of Nashville, Tenn. I turned this letter over to the city health officer. He sent for that woman and found her there with active syphilis. He got her to come to his office, and she told him she had been entertaining from three to five men every night, and this man was one of them. Dr. Hibbett said to her: "We will take you to the hospital and give you treatment and try to get you well." She agreed to go and promised to stay there, but after she had been there a few hours she remarked: "You cannot make me stay here, and I am not going to stay." She left, and no doubt has infected a hundred men since then.

I got three separate letters from clinics in another state to the effect that three men received their infection in the same place from the same woman within a day or two.

In another city, which is evidently not as holy

as Knoxville, it is reported that a woman was found who entertained fifty or more men within twenty-four hours, and she had active syphilis. Gentlemen, if we can get these two women off of the market, we will have done something worth while. If we can get this legislation that we are seeking we can certainly do SOMETHING to control a situation of that sort.

With reference to reporting venereal diseases, nobody wants anybody to advertise any patient. We don't want anybody to report by name, but by case number. We will never get anywhere in the control of any communicable disease until we get reports, and morbidity statistics in this state are now valueless because doctors will not report. I will say that we are trying our best to develop a health department for a health department's sake, and I am just fool enough to believe that the earnest co-operation of the medical profession of this state will be given to it. Furthermore, it is my earnest belief legislation on this subject will furnish a powerful educational lever, and that we will finally be able to get facts in respect to venereal disease before the people of the state in a way that will bring about most decided improvement.

As to whether this Association wants to go on record as favoring this legislation or not, that is for you to say. What is said about the control of venereal diseases was said about the control of every other disease. It was said about yellow fever, and where is yellow fever? It was said about cholera, and where is cholera? It was said about typhoid, and where is typhoid? I believe we can accomplish a good deal by legislative measures in this regard after a while.

Dr. Derivaux (closing): Dr. Jelks has answered the question which was asked, and there is nothing further for me to add to what he has said in that connection. I might have elaborated somewhat in presenting the educational features of the Government program and gone more into detail as to what is contemplated in an educational propaganda: suffice it, however, to state that every possible avenue for the dissemination of accurate information will be utilized and it is expected to reach all classes of society and all ages and sexes of individuals.

To us as physicians and sanitarians, however, it is the immediate situation that demands our attention. The role of educational work is of the highest importance, but we cannot afford to await the development of a sufficiently educated and appreciative public that it may protect itself. It is absolutely essential, as has been emphasized in this discussion, that a systematic and well-considered program for control be undertaken, and it is clear that this must begin with the formal establishment of the venereal diseases on their merited basis as dangerous to the public welfare, and hence reportable; and unless physicians take



the lead in this fundamental need and give it their full support there is but slight hope that tangible gains are to be obtained.

As has been stated, Tennessee has an opportunity to benefit by virtue of the Chamberlain-Kahn Act to the extent of securing a fund of \$23,755.00, together with assistance from the Public Health Service, in getting this campaign under way. I cannot other than urge upon you the need, therefore, that the bill now before your General Assembly be given your support.

(At the conclusion of Dr. Derivaux's remarks, the motion of Dr. Jelks was again read to the Association, was seconded, and upon being put to a vote, was unanimously carried.)

### SOME OBSERVATIONS ON THE SELECTIVE SERVICE SYSTEM.\*

By Paul DeWitt, M. D.,  
Nashville.

The selective service system proved its worth. It fully demonstrated itself to be the surest, quickest and most economical way to raise an army, the only way to prevent disruption of business, secure equal selection from all classes and localities, and to utilize every man and industry for the greatest benefit to the nation.

It is an assured fact that all our future armies for war will be raised through a selective service system. Twenty-four million men were registered and classified, and 3,208,446 were physically examined. This vast amount of data has been so tabulated that the Government now has exact information concerning every man of military age and every industry which makes for war and the public weal. The great machine had just been perfected when the end came; the reins were just gathered together and the whole nation ready to be driven as one mighty team to crush the enemy. For us as a country, it was a calamity that we were not more thoroughly purified by the fire. Our eyes should be opened wider to some conditions which confront us.

Physical examination revealed the startling fact that one man in three is unfit for general military service. Sixty-five per cent

of all rejections were caused by (1) diseases of heart and blood vessels (13.1%); (2) deformities and diseases of bones and joints (12.3%); (3) errors of vision and diseases of the eye (10.6%); (4) mental and nervous disorders and deficiencies (10.3%); (5) tuberculosis (9.6%); (6) developmental defects (8.4%).

Thirteen per cent of rejections from heart lesions should give us pause. Why is the youth of the land so afflicted? City and rural districts are about equal. What are the causes of it—infections, syphilis, or what? Is our strenuous American life affecting even the young, producing heart lesions and high blood pressure, and turning youth into old age? I ask for the solution.

Is the high percentage of bone and joint deformities unavoidable, or is it due partly to lack of careful and skillful handling of fractures and diseases by physicians and surgeons? This impresses us as food for thought.

Errors of refraction prevail largely in the city districts, the reasons for which are obvious.

It is indeed a deplorable fact that mental deficiency and mental and nervous disorders constitute 10.3 per cent of all rejections, and the great majority of these cases were found in the white race. Illiteracy and ignorance stalk through this land of enlightenment and education, and neurasthenies seem to be becoming more numerous.

The great white plague continues its ravages uncontrolled, greatly assisted by developmental defects, especially marked by underweights.

Many of the above conditions can be corrected and prevented by proper physical training during the years of adolescence. The British Empire found the same condition of one unfit man in every three, and prior to the war military training was not compulsory. Statistics are not available, but I venture the assertion that in Germany and France, where military training was compulsory, the percentage of physically fit men was much higher.

It is, of course, superfluous to discuss the benefits of systematic exercise, but ask any man who went through a training camp, and he will invariably tell you that he never felt

\*Read before the Tennessee State Medical Association, April, 1919, at Nashville.

more fit in his life and intends to continue the setting-up exercises. Alas! how soon this good resolution is forgotten! Regular and systematic training under competent instructors in every school and college in the United States would in a few years develop a set of men far above our present status of only one physically fit in every three. Heart lesions, mental disorders, tuberculosis, under-development and many other infirmities would be markedly reduced.

These figures are startling, and if statistics are worth anything, these ought to be reliable, and certainly no question can be raised as to the quantity of clinical material. This revelation should stir the Government to enact a general military service law or some other legislation looking to enforced physical training, especially in schools. The medical profession, the true guardians of public health, should lend every energy toward securing such laws, and thus would they really serve humanity and render true patriotism in bettering the physical manhood of the nation. This is not a plea for a military nation, but for a race of men of high physical standards, and it follows, as night the day, that physical fitness makes for moral and intellectual development.

The great war has brought forth many wonderful discoveries in science, engineering, manufacturing, organization and, not the least, the discovery of ourselves. We have faced reality and have learned a little something of what we really are, and every man knows now deep down in his own heart how much of a one hundred per cent man he is. As a profession, medicine was tried and found not wanting. No class of men gave more freely and willingly of their skill, their time, and the sacrifice of years of labor. This was true not only among those who, having attained eminence and a goodly store of worldly goods, could well afford it, but especially true of the less fortunate who labor hard for a livelihood and could not afford the sacrifice. The man who reached the firing line deserves his laurels and the rest of us applaud and envy his good fortune; the man who remained in camp in this country was less fortunate, but performed his full duty; last, and not least, the member of the selective service

who really performed his conscientious duty, often denied the privilege of accepting a commission because his services could not be dispensed with, laboring many hours a day, without thanks and without pay, and subjecting himself to unkind and unjust criticism, deserves equal honor and glory. Those members who left the drudgery and sacrifice of the system to the other fellow deserve nothing; and those outside of the system—thank God, they are few!—who profited through a fellow practitioner's patriotism and manhood in serving his country, enriching their own pockets and hiding behind "serving their country by buying Liberty Bonds and Thrift Stamps," are too contemptible for a decent man's condemnation.

I can speak for the members of the selective service in Tennessee, on both local and advisory boards, that as a whole, they gave unsparingly of their time and skill and unfolded themselves in true patriotism for country and humanity. What each individual performed is a matter of record, and those who labored faithfully may find some consolation in the fact that their devotion has been recorded and will remain permanently in the archives of the Surgeon-General in Washington.

We have all heard criticisms of the various departments of the War Office, but let us never forget that our country performed the miracle of modern ages, accomplished the impossible, surprised the world and, most of all, ourselves, labored under extreme difficulties of organization and equipment, raised, equipped and transported a tremendous army three thousand miles overseas, and saved our country from bondage and civilization for the world.

#### DISCUSSION.

Dr. Hermon Hawkins, Jackson: My enjoyment of Dr. DeWitt's paper has been enhanced by a previous interest in his subject. Criticism of the Selective Service Act has been common, but, as I suggested in a paper read yesterday, "the time will soon come when a criticism without a smile in it will be but little retarded."

As emphasized by the essayist, this Government has accomplished a wonderful work—almost a miracle; a surprise to us and to the world. The statistics he gave will be used constantly in the future, as through the data compiled from the

Selective Service Act the Government can know what diseases prevail in different parts of the country; what the proportion is in each state; the difference between the colored and the white population; the proportionate illiteracy in the different sections, and a great deal of other valuable information as mentioned by the doctor in his paper.

While short, this paper is exceedingly timely and the information given will become more and more valuable as we become more familiar with it. Should one desire more detailed information, it can be obtained from the report of the Provost Marshal-General to the Secretary of War, dated December 20, 1918, a copy of which was sent to each member of Advisory Boards and examiners of Local Boards. This is the most human official document I have ever examined—well worth a thorough study. We hardly yet begin to realize just how valuable this information will be to us and the country in the future.

#### NOTES ON THE RECOGNITION OF CERTAIN RENAL LESIONS BY PYELOGRAPHY.

By Sergeant Price Martin, M.D.,  
Dyersburg, Tenn.

From the introduction of pyelography by Voelcker and Von Lichtenberg in 1906, the study of renal lesions has been one rapid advance of diagnostic and therapeutic achievement. In the beginning it was the grosser abnormalities that occupied the attention of the workers in this field; but in recent years more attention has been given to detailed renal study, both for purposes of diagnosis and for treatment.

Today the cystoscope, with its various modifications, is indispensable in the study and diagnosis of practically all urinary disorders. The success in the treatment of certain renal conditions almost invariably depends upon the ability of the observer to interpret correctly the findings in the pyelogram.

The following renal lesions will be briefly discussed:

1. Hydronephrosis.
2. Pyelitis.
3. Renal tuberculosis.
4. Renal calculus.
5. Renal tumor.
6. Extra renal tumor.
7. Polycystic kidney.
8. Reduplication of the renal pelvis.

#### 9. Fused kidney.

In the study of a suspected hydronephrosis after a careful clinical history has been taken, and a record of the urinary and x-ray findings has been made, the outline of a well-distended pelvis as seen in the pyelogram may be of a more definite diagnostic value than any other data.

The first deviation from the normal to be noted in the pyelogram in an early hydronephrosis is a flattening of the terminal irregularities seen in the normal minor calyces. As a rule the shortening of the minor calyx is accompanied by a broadening of the entire major calyx, while the true renal pelvis may be but slightly dilated. Considerable difficulty may be found in differentiating an early hydronephrosis from a large normal pelvis, since the outline of either the true pelvis or of the major calyces in a normal kidney is not infrequently of unusual size. The changes from the normal must, therefore, be well marked in order to identify a condition of hydronephrosis. In the demonstration of small hydronephroses it may be of value to make a bilateral pyelogram in order to compare the outlines of the two pelves. As a rule, an unusual increase in size, if normal, will appear bilateral. The outline of the pelvis on one side, however, appearing two or three times as large as that on the other, should be corroboratory evidence of pathologic distention.

Care must be taken to show the outline of the renal pelvis fully distended in order to demonstrate the presence of an early hydronephrosis. If the calyces in a normal pelvis are but partially filled, the normal terminal irregularities of the minor calyces might not be shown, and with a normally broad major calyx the resulting pyelogram might suggest the early changes of a hydronephrosis. Furthermore, unless the pelvis is fairly well distended, the size of the major calyces may not appear to be abnormally large, even in a well-marked hydronephrosis.

Another source of confusion in the interpretation of changes subsequent to an early hydronephrosis is caused by respiration or motion on the part of the patient while the pyelogram is being taken. This may result in an apparent broadening or increase in size



of the calyces due to their outline being indistinct and blurred.

A point of interest in the diagnosis of hydronephrosis of early or even moderate degree is the change frequently seen in the angle where the ureter leaves the pelvis. The angle formed by the lower border of the true pelvis and the first portion of the ureter is usually wide; with the dilation of the true pelvis, it may become acute. However, when the angle at the uretero-pelvic juncture is acute, accompanied by a distinct increase in size of the pelvis and definite changes in the outline of the calyces, the course of the ureter may be of corroboratory value in demonstrating hydronephrosis.

In a moderate hydronephrosis the major calyces will appear considerably broader in their entire extent, while the minor calyces will usually be entirely effaced.

As the degree of pelvic dilation increases the major calyces become shorter as well as broader. The abbreviation of the calyces may proceed to such an extent that one or two indentations in the otherwise rounded contour of the true pelvis alone may remain. Accompanying these changes in the outline of the calyces marked increase in the size of the true pelvis will usually occur. The pelvic outline is usually even and well rounded along its free border. Its size now makes it easily distinguishable from a very large normal pelvis. The increase in size of the true pelvis may be out of proportion to the more moderate changes seen in the calyces. With the increase in size of the true pelvis the papillae, which normally project between the major calyces well into the pelvic lumen, become distinctly shorter and may become so flattened as to be practically effaced. Unless the pelvis is fairly well distended, an erroneous impression of the size of the hydronephrosis may be gained from the pyelogram.

The demonstration of a large hydronephrosis by means of pyelography is, as a rule, unnecessary, since its existence may ordinarily be determined by means of the cystoscope and ureteral catheter. However, because of the difficulty in interpreting the nature of an obstruction met by the ureteral catheter, or in recognizing retained fluid by the usual cystoscopic technique, it may be necessary to make

a pyelogram. It will usually be difficult to demonstrate the entire contour of a greatly distended pelvis in the pyelogram because of the dilution of the medium by the retained fluid. The calyces alone may be visible and appear as detached, irregularly rounded areas, particularly when only partially filled. With great dilution of a small amount of injected solution either a faint diffuse round outline or but a few dim scattered shadows may be visible to suggest the distended hydronephrotic sac.

11. Any considerable degree of infection involving the renal pelvis may be followed by dilatation of the pelvis. This dilatation is the result of change in the tissues and consequent retraction in the walls of the pelvis and ureter, and is not caused by mechanical obstruction. The dilatation may vary from a scarcely recognizable irregularity of the calyces to complete destruction of the pelvis. Evidence of an inflammatory process which has once caused dilatation will rarely be obliterated. Such inflammatory changes in the pelvic outline may be the only evidence of a previous infection. The character and degree of an inflammatory process can often be determined better by means of a pyelogram than by any other method.

Dilatation of the renal pelvis as the result of inflammatory changes in its walls differs from mechanical dilatation as seen in a pyelogram in the following characteristics:

First, in general irregularity of outline, and second, by predominance of the dilatation in the calyces whose ends are clubbed and rounded, rather than a dilatation of the true pelvis. It will be found that infections predominant in the renal pelvis are usually accompanied by a considerable degree of inflammatory dilatation, whereas infections predominant in the renal parenchyma usually cause but slight inflammatory changes in the pelvic outline.

The earliest changes in the pelvic outline resulting from infection are generally characterized by a slight broadening and irregular rounding of the calyces; while there are scarcely any recognizable changes in the true pelvis. A moderate uniform dilatation of the ureter may also aid in the recognition of early changes.

As the inflammatory process increases, the dilatation in the calyces may become well marked with little or no dilatation apparent in the true pelvis.

As a rule, when the inflammation becomes well advanced both the calyces and the pelvis may be dilated to an equal degree, though occasionally the true pelvis may be dilated to a varying degree without any marked changes being apparent in the outline of the calyces. When the pelvis alone is dilated the dilatation is continuous with that in the ureter.

With extension of the inflammatory process and consequent destruction of the normal outline of the calyces, the cortex may be invaded, and in the resulting pyonephrosis areas of necrosis may merge with the calyces.

As the inflammatory process disintegrates the adjacent tissue, all traces of the normal pelvic outline may become lost and the pelvis appear as a large irregular sac with adjacent areas scattered through the parenchyma. As with hydronephrosis, the retained fluid often dilutes the injected medium so that but one or two dilated calyces may appear faintly outlined. It is usually not necessary to make a pyelogram in advanced pyonephrosis, as the clinical and cystoscopic findings generally suffice to identify the condition.

With a chronic inflammatory process largely confined to the renal pelvis, its outline occasionally may become irregularly contracted, as well as dilated. This condition may be caused either by contraction as the result of inflammatory changes in the peri-pelvic tissues or by narrowing of the lumen by inflammatory proliferation of the pelvic mucosa.

III. The diagnosis of renal tuberculosis can usually be ascertained by demonstrating the presence of tubercle bacilli in the urine, combined with clinical data, and cystoscopic findings. However, microscopical examination of the urine may prove negative and guinea-pig inoculation may be impracticable, while the clinical data may be uncertain and thus leave the diagnosis of renal tuberculosis in doubt. It is in such cases that the evidence obtained by means of the pyelogram may be the only method by which to obtain the correct diagnosis. Only, however, when the diagnosis is in doubt should pyelography be employed.

In the early stages of renal tuberculosis

evidence of the inflammatory process in the outline of the pelvis may be so slight as to be overlooked. When pelvic deformity becomes apparent, however, it may closely resemble pyelonephrosis, and occasionally it is impossible to differentiate between the two conditions. In renal tuberculosis pelvic deformity predominates in the outline of the calyces. The true pelvis as a rule is but moderately enlarged unless a pyonephrosis be present or a ureteral stricture should cause a marked degree of mechanical obstruction. The calyces appear irregularly dilated, with uneven borders, most marked at the apices, which may even appear detached from the pelvis. When the process largely involves the pelvis and the peri-pelvic areas, the normal regularity of the pelvic outline is lost, and in its place will be found a diffuse, moth-eaten, irregular outline. If the process is confined largely to the cortex, and if the areas of necrosis are minute, the pelvic lumen may then become contracted as soon in certain forms of pyelonephritis.

The first evidence of cortical necrosis as a rule will be visible at or just beyond the apex of the calyces. The calyces become irregularly enlarged and their borders become indistinct. As the inflammatory process progresses the necrotic areas become larger and may cause irregular shadows adjacent to the pelvic outline, or appear as irregular areas scattered in various parts of the cortex. Occasionally the areas of necrosis are seen to communicate directly with the irregular outline of the pelvis. As the inflammatory process becomes well advanced the tissue destruction about the pelvis may become that of a large pyonephrosis with areas of cortical necrosis scattered through the parenchyma. These may coalesce to form a large irregular sac.

IV. Shadows in the kidney area as a rule may be identified by their contour, character and position. However, a renal stone may assume an atypical form, and the position of the kidney may be such as to confuse interpretation. Frequently in the course of routine abdominal radiographic examination, shadows are seen which are suggestive of renal calculus, even though there has been no clinical data that would suggest the pres-

ence of a stone in the kidney. Also, extra renal conditions may occasionally be the cause of shadows that might easily be confused with renal stone. Data other than those derived from the ordinary radiogram will, therefore, often be necessary for identification. In such cases the data obtained by means of cystoscopic examination and the ureteral catheter will generally suffice for the identification of stone. In other cases, however, shadows can only be identified by means of pyelography. This method should be used only when interpretation is doubtful, or when exact localization is desirable.

The pyelographic data makes it possible to determine whether a doubtful shadow is extra-renal or intra-renal. When the distance separating the shadow in question from the pelvic outline is three inches or more, it may be safe to assume the extra-renal nature of the shadow has been demonstrated. However, should the extra-renal shadow be situated adjacent to the outline of the pelvis, it might easily be confused with a stone in the cortex.

A careful study of the exact relation of a shadow to the outline of the pelvis will generally make it possible to differentiate between extra-renal and intra-renal shadow. Cortical stone as a rule is usually situated at or near the apex of a calyx, seldom at its side. Therefore, if the shadow is situated lateral to a calyx, its extra-renal nature may be inferred. A small shadow so situated that it is obliterated in the pyelogram by the pelvic outline may prove difficult to identify. Also when the pelvic outline is normal it may be hard to differentiate the shadow of an intra-pelvic stone from an extra-renal object lying in direct line with the renal pelvis. If the stone is situated within the pelvis, its shadow will either be obliterated entirely by that of the injected pelvis, or it will be seen faintly through it depending on the relative density of the stone and the medium.

When a stone is situated in the pelvis without causing obstruction to the urinary drainage, the dilatation is usually confined largely to the individual calyces. However, the dilatation may predominate in the true pelvis with but little deformity of the calyces.

The degree of deformity in the pelvic outline is not dependent on the size of the stone; frequently a small stone may cause marked deformity, while a stone large enough to fill the entire pelvis may cause only a slight change in the pelvic outline. Slight inflammatory changes are frequently seen in the pelvis of a kidney in which small stones have repeatedly formed and passed at irregular intervals.

Mechanical distention of the pelvis due to a stone within it, occurs to a noticeable degree in but a small percentage of cases. When present, however, the distention is characterized by an increase in the outline of the free pelvis proportionately greater than that in the calyces.

Renal tuberculosis may be mentioned among the causes for confusion in the interpretation of shadows seen in the radiogram. As a rule, the numerous types of shadows caused by the calcium in necrotic tuberculous renal tissue are readily recognizable in the radiogram. The demonstration in the pyelogram of the changes in the pelvic outline usually accompanying tuberculosis should prove an aid in identifying that condition.

The pyelogram as a rule is the best and frequently the only method by which a gall stone can be differentiated from a right renal calculus.

V. Probably a retraction of one or more calyces is the earliest deformity to be seen in the pelvis as a result of renal tumor. As the tumor enlarges toward the periphery it retracts the calyx involved with it. If the tumor is confined to either pole of the kidney, retraction may be confined to the adjacent calyx. Generally retraction is accompanied by a distinct narrowing of the lumen of the calyx and obliteration of its minor calyx. In order to interpret the pelvis as a pathologic, retraction as well as deformity of the calyx must be well marked because in the normal pelvis there may occasionally be one or more calyces unusually elongated.

The number of calyces involved increases with the size of the tumor. When there is a retraction of multiple calyces the larger portion of the kidney as a rule is involved. The calyces may be retracted to unusual lengths, at times as far as several inches. This occurs



more frequently in large tumors. The different calyces retracted in various directions may give an appearance in the pyelogram which has well been designated as a "spider leg" deformity. The lumen of the calyces in such cases may vary considerably. Some cases may show nodular dilatation in their course, while others may have a narrowing, thus causing their outline to appear as irregular narrow streaks. If the calyces are not completely filled only their dilated portions may appear in the plate. As a result, irregular shadows may be seen scattered over an unusually wide kidney area.

VI. While frequently the radiographic shadow of extra-renal tumor tissue may be of value in identifying the tumor as an extra-renal growth, it cannot always be relied upon. More often the outline of the tumor-mass is indistinctly defined, and it may be merged with a more or less indefinite renal shadow. If, however, the renal pelvis can be demonstrated in a pyelogram, with a normal outline lying at some distance or in an impossible relationship to an adjoining tumor, its extra-renal relationship may be definitely proved.

VII. Abnormality in the pelvic outline accompanying polycystic kidney if apparent in the pyelogram is characterized by: First, shortening of one or more of the calyces, thus giving the pelvic outline an oval or irregular squared contour; second, broad irregular retraction of the calyces, and, third, change in position and axis of the pelvis.

Obliteration of the calyces may be confined to one portion of the pelvis, leaving one or more calyces normally outlined. The partial or complete obliteration of the calyces may be caused by the encroachment of the cortical cysts. As a rule, the degree of deformity increases with the number and size of the cysts. Occasionally only the remnant of one calyx will remain, giving the outline of the pelvis a peculiar rounded form, while an encroachment of the cysts may affect all the calyces and so compress the pelvis as to give it a cylindric outline.

Retraction of the calyces as the result of polycystic growth occurs less frequently than with neoplasm. Braasch reported that in twenty-one cases of polycystic kidney in

which a pyelogram had been made, but twelve showed any abnormality in the pelvic outline. When it does occur, the retraction causes broad spaces in contrast to the typical narrow streaks of neoplasm. At times the calyx retraction occurring in a polycystic kidney may be so broad and irregular in outline as to strongly suggest a hydronephrosis or pyonephrosis.

VIII. The renal pelvis may exhibit partial or complete duplication. This may vary in degree from an abnormal elongation of the upper major calyx to two distinct and widely separated pelves, which have separate paths of drainage into the ureter.

With the development of pyelography additional and more accurate data has been acquired in the exact diagnosis of this congenital anomaly.

IX. As a rule the relative position of the two divisions of a fused kidney can be determined by means of the lead catheter. However, a more accurate localizing data can usually be obtained by means of a pyelogram. A pyelogram can better demonstrate the pathologic condition which so frequently complicates this anomaly.

As a rule the two pelves of a fused kidney do not lie symmetrically with respect to the vertebral column. The exact relationship is variable; the most frequent situation, however, is such that the lower lying pelvis is visible near the median line, while the upper lying pelvis is distinctly lateral and more nearly normal. Occasionally the relative position of the two pelves in a fused kidney may become confused with the position of a moderately low-lying kidney. Peculiarities, however, in the position and character of the low-lying pelvis as well as in its ureter will identify the condition present.

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#### DISCUSSION.

Dr. Perry Bromberg, Nashville: The paper that you have just listened to by Dr. Martin is an extremely important one. I recall very well that at a meeting of the American Urological Association, held in Chicago two years ago, Dr. Kolischer exhibited the radiogram of a ureteral catheter he had passed into the kidney, and it was curled up in the pelvis of the kidney. It was a beautiful picture, showing that a catheter could be placed in the pelvis of the kidney and could curl up. He made the statement unequivocally at that time that there was no sense in taking a pyelogram; that practically everything which might be determined by a pyelogram could be determined by doubling the catheter in the pelvis of the kidney. I have no hesitancy in taking issue with Dr. Kolischer on that point. I do believe there is decided use for the pyelogram; it is not always indicated to make a diagnosis of pyelitis, nor do I believe it is essential to make a diag-

nosis of stone in the kidney, but that a pelvic picture will give us a degree of information that cannot be determined by any other means at the present time is undeniable.

Dr. Martin has shown us some beautiful slides illustrative of the conditions that are commonly found that could really be determined in their entirety by the pyelogram.

I have in mind just now the case of the mother of a physician who had repeated attacks of renal colic in which stone was supposed to be present. We introduced a catheter into the pelvis of the kidney, drew off specimens of urine, injected thorium, and made a picture, and found a very rare and unusual condition. It seems that the ureteral inlet to the kidney had evidently by some slight adhesion been attached upward, the kidney dropping down; it gave an outlet from the pelvis of the kidney at a high angle, so that the kidney would not drain. In withdrawing the catheter the adhesions to the ureter were loosened and from that day on the patient has not had another symptom. It was a beautiful picture, showing a kink in the ureter. The doctor did not mention that in his paper as being one of the conditions in which pyelography is specially indicated. There is no question that hydronephrosis, dilatation of the sac, whether it be from an accumulation of fluid within the pelvis of the kidney, or whether it be due to an inflammatory process, can only be determined, in my opinion, especially the degree of it, by a picture.

The interpretation of these pictures, if one has had a little practice is not difficult at all. I would certainly congratulate Dr. Martin on the excellence of his paper and on its timeliness. I do not believe the average physician appreciates the importance of good pictures of the kidney, and I do believe that too many patients with chronic kidney conditions are permitted to drag along for an indefinite period in which proper diagnostic methods have not been used.

Dr. Martin (closing): Dr. Bromberg mentioned having had an interesting case that suffered with repeated attacks of renal colic though all findings were negative. He stated that following the passage of a ureteral catheter into the renal pelvis that these attacks of pain ceased entirely and have never bothered the patient since. Occasionally we see cases like this of spontaneous cure following the passage of a ureteral catheter. We have no explanation to offer for it unless by the passage of the catheter some stricture or kink in the ureter has been overcome. I have nothing more to add to what I have already said.

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## EDITORIALS

### THE WORKMEN'S COMPENSATION LAW OF TENNESSEE.

On at least two occasions, the writer recalls very distinctly, the attention of the members of the State Medical Association was called to the probability of there being placed on the statute books of our state a workmen's compensation law; one in an editorial in the Journal in the winter of 1914 (1), and again in a discussion on the floor of the general meeting of the Association in 1917 (2). The attention of the Association was called to this matter in a more forcible manner by a very excellent paper on the subject by Dr. William Krauss, of Memphis, read before the Association at the Memphis meeting in 1918. Scant attention has been paid to these efforts to arouse a just interest on the part of the members in this subject. Few of the members knew of such an act, which was passed April 15th, 1919, until it went into effect July 1st, 1919.

No one doubts the wisdom or justice of a workmen's compensation act. The states that have not enacted such a law are considered backward. The Tennessee law shows that our state is progressive. The present statute, however, has done a grave injustice to the physician, hospital and in the end, the employee. It was the latter to whom aid was especially intended to be given.

Section 25 of the act states "That . . . the employer shall furnish free of charge to the injured employee such medical and surgical treatment, medicine, medical and sur-

gical supplies, crutches and apparatus as may be reasonably required . . . Provided, however, that the total liability of the employer under this section shall not exceed one hundred dollars."

Expressed in another way, this means that the maximum amount to be paid for medical and surgical aid under the present act shall not exceed one hundred dollars. The minor injury is amply taken care of by the amount set forth, but what of the more serious injuries? What of the case that requires hospital attention, an operating room fee, an x-ray, dressings daily, etc.; a pair of crutches or an ambulatory splint? How long will a hundred dollars last for these necessary expenses? And what of the physician's fee? By the very limited payment of the act, the physician is confronted by the anomalous situation that the very case from which he has a right to expect a just and reasonable compensation of any magnitude for his professional services he may not receive anything. From the report of the Legislative Committee of the American Hospital Association, referring to the hospital and workmen's compensation, we quote the following: "The principle of 'hospital cost for service rendered,' which has had the general approval of this Association, is an absolute essential in workmen's compensation laws, both for the injured workman and for the hospital which cares for him. If such laws limit rates of payment, as well as the number of days of hospital treatment, the result is less opportunity for the complete restoration of the workman seriously injured in industry. It also often places the hospital in the position of choosing between doing 'charity work' for the state and the private insurance company, or of discharging the patient too soon."

This is a just and plain statement of the situation from the standpoint of the hospital. The attending physician finds himself in a similar position, only, perhaps, worse. In a serious case he finds himself "doing 'charity work' for the state and the private insurance company" with the added care of his legal responsibility in the case.

Nor can the physician or hospital have any legal claim against the compensation paid the injured employee by the employer, for the

(1) Jour. Tenn. State Med. Ass'n., Vol. 7, No. 8, p. 339.

(2) Transactions of the 1917 Session.



Tennessee act provides, in Section 18, "that no claim for compensation under this act shall be assignable, and all compensation and claims therefore shall be exempt from claims of creditors." The hospital and the physician may ingratiate themselves into the good graces of the injured employee and out of the fullness of his heart he may pay them for their services, should the amount exceed the one hundred dollars, but it is very doubtful whether they would have any claim at law.

The remedy for these manifest injustices in the compensation act is to either greatly increase the total liability of the employer for medical or surgical aid or to make the compensation unlimited. Surely an injured workman should be given every opportunity and the very best facilities for the prompt restoration of his full earning powers. He should not be made the recipient of quasi charity under the guise of an uplifting act on the part of the state. Nor should the physician be expected to become a party to it. The physician should demand—must demand—reasonable compensation for services rendered.—G.

### THE BLIND.

From the press of The MacMillan Company has come "The Blind—Their Condition and the Work Being Done for Them in the United States," by Harry Best. This is a most complete and comprehensive survey of conditions affecting the citizens of our country who must live their lives deprived of the most precious of all the senses. This book is above all else, aside from being an exhaustive statement of fact about blindness and the condition of the blind, a plea for that kind of care and that kind of training and education by the state that will enable the blind to work and by their own effort to support themselves wholly or in part. It would be a fine thing if the splendid book of Mr. Best could have a wide reading in our own state. Tennessee has a school for the blind which is doing good work in a limited way, but there are many blind or near-blind children in the state who are receiving no training that will enable them to lead lives of usefulness.

## NOTES AND COMMENT

The Journal knows of another fine country location where some good man who is willing to **practice medicine** in the country can render fine service and make a fine living.

The Blount County Medical Society is one of the going organizations in the state, and its members are proud of their society.

Dr. A. F. Cooper, Memphis, has reopened his offices after a term of service with the Army Medical Corps in France, and will devote himself to the practice of medicine—internal medicine.

Drs. J. H. McSwain and G. R. McSwain, Paris, are at home again from Army service abroad.

The Tennessee State Board of Health, through the Division of Sanitary Engineering, is making a survey of the public water supplies of the towns of the state. In one town of the eight so far surveyed, a safe water supply was found.

It does no good to send specimens for examination to a laboratory unless there is some information with it that will enable the microscopist to tell who sent the specimen. Day after day specimens come to the State Board of Health laboratory with no mark of any kind to indicate from whom or where they come.

## MISCELLANEOUS

### COMMON SENSE.

The conservation of natural resources in the United States has been accorded a great deal of attention in the past few years. "Conservation" was originally urged with reference to our forests, water power and mineral resources, but has of late come to be considered in all its details with reference to food supplies. The preservation of fruits, canning of meats, and the proper storage of fruits, veg-

etables and eggs are not only widely practiced, but it is a deeply studied question. The preservation of flavors is now being studied by our food commissioners. It is the object of these investigations to ascertain the best conditions for the preservation of food and to eliminate every condition tending toward spoilage or waste.

Nevertheless, one great industry has recently been developed which produces an unnecessary product more liable to deterioration and spoilage than the products from which it is prepared. Its only human appeal is to laziness. We speak of the manufacture of self-rising flour. As is well known, self-rising flour consists of nothing more than certain baking powder ingredients, such as phosphate and soda, added to flour, together with a little salt. The phosphate thus used is generally adulterated with from 5 to 15 per cent of gypsum, otherwise known as calcium sulphate. The keeping qualities of this self-rising flour depend upon the keeping qualities of the baking powder materials incorporated therein. Whereas baking powders are made with super-dried starch, containing from 2 to 7 per cent of moisture, and are sold in tin cans which protect the product from the moisture of the atmosphere, flour contains from 10 to 13 per cent of moisture and is generally sold in bags, open to the access of atmospheric moisture. We can then see that the keeping qualities of self-rising flour are far inferior to those of baking powder. In this connection, it should be further noted that phosphate baking powders retain their strength for a shorter length of time than any other baking powder, and it is the phosphate type of powder that is used in self-rising flour.

It is well known that, if kept at proper temperature, flour can be properly conserved from year to year. This is not the case with self-rising flours. The housewife who buys an ordinary flour makes a self-rising flour out of it as soon as she adds or mixes therewith a little baking powder. This task requires but little labor. She has thus produced a self-rising flour which is sure in its results. This is not the case with self-rising flours produced for sale. A cheaper grade of flour is used than that which can be secured at the same price together with the necessary baking pow-

der by the housewife by purchasing the ingredients separately. No filler, such as calcium sulphate or gypsum, is used in any baking powder. The housewife desiring a pure, trustworthy product which will not deteriorate rapidly will, therefore, cease to buy these self-rising flours.

There is unquestionably a large amount of spoilage in self-rising flour taking place that is discovered only in the home in poor quality biscuits, and which thus escapes public notice. If, however, statistics could be compiled showing the extent to which self-rising flour deteriorates as compared with straight wheat flour, the totals would be so great as to arouse a cry against the manufacture and sale of this article which would be heard from coast to coast.—From the Journal of the Florida State Medical Association.

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#### NEGATIVE OR POSITIVE?

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Is the gauze which you use on wounds of a negative or positive character? In other words, is the gauze merely negatively aseptic, meaning that it will not of itself infect the wound; or is it positively antiseptic, with the faculty of keeping out infection and of inhibiting infectious processes in the wound itself?

Given the choice of the two surely the latter, the one which is actively antiseptic instead of passively aseptic is to be preferred.

Such a dressing is chlorazene surgical gauze, a new addition to the well-known chlorazene family, supplied by the Abbott Laboratories of Chicago, Ill., which is now introducing it as "the fighting dressing for wounds." We who are familiar with the well known action of chlorazene can well believe that it marks another step forward in the modern dressing of wounds.

Chlorazene surgical gauze, we are assured by the Abbott Laboratories, contains more than 5 per cent of imported chlorazene. This amount is guaranteed not only at the time of manufacture, but also at the time of use. To support this they show that a strip of the gauze which assayed 6.44 per cent of chlorazene was kept under ordinary conditions for over six months and at the end of that time

assayed 6.35—a loss of less than one-tenth of one per cent.

Chlorazene surgical gauze is now being marketed in one-yard and five-yard rolls. Its price compares favorably with other antiseptic gauzes on the market. Its greater effectiveness, due to the greater potency of chlorazene over the substances commonly used as antiseptics, should be taken into consideration.

Physicians are invited to try this new surgical gauze at the expense of the Abbott Laboratories. A post card or any other form of request for a trial strip will be taken care of promptly. We suggest sending for yours to-day.

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### GOVERNMENT WANTS WORKERS IN VENEREAL DISEASE CAMPAIGN.

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The recently created Interdepartmental Social Hygiene Board of the United States Government is in need of a number of specially trained men and women to complete its organization. The United States Civil Service Commission has announced examinations for the following positions; Chief of division for scientific research, \$3,500 to \$4,500 a year; chief of division for educational research and development, \$3,500 to \$4,500 a year; educational assistant, \$2,800 to \$3,600 a year; chief of division of relations with states, \$3,500 to \$4,500 a year; chief of division of records, information and planning, \$3,500 to \$4,500 a year; supervising assistant and inspector, \$2,800 to \$3,600 a year; field agent, \$1,800 to \$3,000 a year. All positions are open to both men and women.

Applicants for these positions will not be given scholastic tests in an examination room, but will be rated upon their education, experience and writings. Published writings of which the applicant is the author will be submitted with the application. For most of the positions a thesis on one of a number of given subjects will be accepted in lieu of published writings. The receipt of applications will be closed on November 4. Detailed information and application blanks may be obtained from the United States Civil Service Commission,

Washington, D. C., or from the secretary of the United States Civil Service Board at the postoffice or custom house in any of three thousand cities.

The law creating the Interdepartmental Social Hygiene Board provides for the co-operation of the War and Navy Departments and the Public Health Service of the Treasury Department for the prevention, control, and the treatment of venereal diseases. The duties of the Board as set forth in the act are (1) to recommend rules and regulations for the expenditure of moneys allotted to states for the use of their respective boards or departments of health in the prevention, control and treatment of venereal diseases; (2) to select universities, colleges, or other suitable institutions which shall receive allotments for scientific research for the purpose of discovering more effective medical measures for the prevention and treatment of venereal diseases; (3) to recommend such general measures as will promote correlation and efficiency in carrying out the purposes of the act; and (4) to direct the expenditure of certain moneys appropriated by the act.

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### WILL THE FLU RETURN?

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#### Authoritative Statement Issued by the U. S. Public Health Service.

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Probably, but by no means certainly, there will be a recurrence of the influenza epidemic this year.

Indications are, that should it occur, it will not be as severe as the pandemic of the previous winter.

City officials, state and city boards of health, should be prepared in the event of a recurrence.

The fact that a previous attack brings immunity in a certain percentage of cases should allay fear on the part of those afflicted in the previous epidemic.

Influenza is spread by direct and indirect contact.

It is not yet certain that the germ has been isolated, or discovered, and as a consequence



there is yet no positive preventive, except the enforcement of rigid rules of sanitation and the avoidance of personal contact.

A close relation between the influenza pandemic and the constantly increasing pneumonia mortality rate prior to the fall of 1918 is recognized.

It is now believed that the disease was pretty widely disseminated throughout the country before it was recognized in its epidemic state. This failure to recognize the early cases appears to have largely been due to the fact that every interest was then centered on the war.

Above are the important facts developed by the United States Public Health Service after a careful survey and investigation of the influenza pandemic of 1918-19, carried on in every state and important city, and even in foreign countries.

No one of the many experts of the Service would make a more positive forecast of the all-important question, will there be a recurrence? All agreed, however, that a recurrence was not unlikely, and in the face of the known facts, that it would be wise to be prepared, more with a view of being on the safe side than actually anticipating danger.

The following excerpts from the Government report are published for the benefit of the public and health officers in the hope that this will serve to set at rest the daily publication in the newspapers of statements which, on one hand, are calculated to lull the public into a sense of false security, and on the other, to unduly cause alarm.

Contrary to the opinion expressed frequently during the early weeks of last year's pandemic by a number of observers, the studies of the U. S. Public Health Service indicate that the epidemic was not a fresh importation from abroad. Careful study of the mortality statistics of the United States shows that there were a number of extensive though mild forerunners of the pandemic during the previous three or four years. In Chicago and New York in the winter of 1915-16, for example, these were sufficiently well marked to occasion considerable public comment at the time, leading, in the latter city, to a well or-

ganized "Don't spit, don't sneeze" campaign on the part of the health authorities. The reports of the U. S. Public Health Service of January, 1916, show influenza to be epidemic in twenty-two states, including practically all sections of the United States. The epidemic was generally of a mild type, and has since been almost forgotten. It occasioned, however, a noticeable increase in the recorded death rate from pneumonia.

In the spring of 1918 there was another sharp rise in the mortality rate from pneumonia. In the larger cities of the Atlantic seaboard these increases occurred during January, February and March. In the rest of the country, especially the central and western the normal. The increased mortality rate ex-sufficient to indicate a strong departure from states, the increases occurred in April, a month during which pneumonia mortality is generally on the decline. This increase was tended into May, and in some areas even longer.

This occurrence has, it is believed, a definite significance in relation to the influenza epidemic. In the United States, in the spring of 1918, a number of definite local outbreaks of influenza were observed; thus in Fort Oglethorpe, near Chattanooga, Tenn., in March; in Chicago, during March; in San Quentin prison, California, in April, October and November. At Camp Funston recurrent outbreaks of pneumonia were observed in March, April and May of 1918, and were definitely associated with coincident epidemics of a mild type of influenza.

The rise in mortality from pneumonia, this very similar type of disease, in the spring of 1918 is so sudden, so marked and so general throughout the United States as to point very clearly to a definite relation. Everything indicates that the increased mortality from pneumonia in March and April of 1918 was the consequence of a beginning and largely unnoticed epidemic of influenza, the beginning in this country of the pandemic which developed in the autumn of that year.

In the British cities the epidemic manifested three distinct waves—the first and slightest in point of mortality occurring in June

and July, the second and most severe in November, the third in February and March. **Data which need not be cited here in detail** indicate that the course of the epidemic in western Europe generally was similar. In cities of India the sequence was similar, but the mortality far greater. In the United States the epidemic developed more largely in a single wave during September, October and November. If, however, the epidemic already mentioned as occurring in the spring be considered the first phase and the explosive outbreak of the autumn the second, a third phase of recrudescence is quite evident in many areas. In general, this winter recrudescence was less marked in those cities which suffered most severely in the autumn epidemic.

The prevalence of a serious epidemic of influenza was first recognized in and around Boston in September of 1918. Within about two weeks it was general in the Atlantic seaboard, developing a little later among cities further west. Rural districts were usually attacked somewhat later than large cities in the same sections.

In the cities east of the line of the Appalachians the excess mortality from pneumonia and influenza during the weeks ended September 14, 1918, to March 1, 1919, was approximately 5.6 per 1,000; in cities between the Rocky Mountains and the Appalachians, 4.35; and in those of the Pacific coast, 5.55 per 1,000.

More details can be given only the briefest mention here. In order to secure reliable statistics of morbidity, the Public Health Service has made special house-to-house surveys in a number of localities, ascertaining the number of persons affected, the dates of onset, and a few other simple facts accurately enumerated groups representative of the general population. Partial analysis of the results of these surveys in eight localities, giving an aggregate of 112,958 persons canvassed, shows the following as the chief facts of interest:

The percentage of the population attacked varied from 15 per cent, in Louisville, to 53.3 per cent in San Antonio, Tex., the aggregate for the whole group being about 26 per cent. This agrees with scattered observations in the first phase of the 1899-90 epidemic, when the

attack rate seems to have varied within about these limits.

The case incidence was found to be uniformly highest in children from 5 to 14 years old, and progressively lower in each higher age group. It was slightly higher in females than in males of corresponding age; usually higher in the white than in the colored population.

The ratio of pneumonia cases to total population varied from 5.3 cases per 1,000 in Spartanburg, S. C., to 24.6 per 1,000 in the smaller towns of Maryland. The pneumonia rate showed little correlation with the influenza attack rate.

The ratio of deaths to population varied from 1.9 per 1,000 in Spartanburg to 6.8 in Maryland towns. The death rate was by no means parallel to the influenza attack rate, but was closely correlated with the pneumonia rate. In other words, the case fatality rate of pneumonia tended to be fairly constant, around 30 per cent. The death rate was notably high in children under one year old, in adults from 20 to 40 and in persons over 60; higher in males than in females of comparable ages; higher among the whites than colored.

Concerning the important question of immunity conferred by an attack of influenza, the evidence is not conclusive, but there is reason to believe that an attack during the earlier stages of the epidemic confers a considerable, but not absolute, immunity in the later outbreaks.

In general the pandemic of influenza was largely similar to that of 1889-90 in its development—first a mild form, later in a severe world-wide epidemic, in the rapidity of its spread and its high case incidence. It has, however, been notably different in a much higher mortality, especially among young adults. Such evidence as has been gathered confirms the conclusion previously reached that it is transmitted directly and indirectly by contact. It appears probable, however, that the infection was already widely disseminated in this country some time before a serious epidemic was recognized.

Despite the fact that there is still some uncertainty as to the nature of the micro-organism causing pandemic influenza, one thing is certain, that the disease is communicable from person to person. Moreover, judging from experience in other diseases, it is probable that the germs, whatever its nature, is carried about not only by those who are ill with influenza, but by persons who may be entirely well. Everything which increases personal contact, therefore, should be regarded as a factor in spreading influenza.

Much was heard last winter of the use of face masks. Though the use of suitably constructed masks will reduce the interchange of respiratory germs through inhalation, it must be remembered that there are many other paths by which such germs are transmitted from person to person. Soiled hands, common drinking cups, improperly cleaned eating and drinking utensils in restaurants, soda fountains, etc., roller towels, infected food—these are only a few of the common vehicles of germ transmission. The use of face masks appears to make people neglect these other paths of infection, and as the use of face masks has not been attended with the success predicted for them. If we would be more successful in combatting influenza greater attention must be paid to the factors just enumerated.

The question of most practical and immediate interest is the probability of recurrence in the near future. Recurrences are characteristic of influenza epidemics; and the history of the last pandemic and previous ones would seem to point to the conclusion that this one not yet run its full course. On the other hand, this epidemic has already shown three more or less distinct phases and has been more severe, at least in mortality, than the three-year epidemic of 1889-92—facts which justify the hope, though not the conclusion, that it has run its course already.

It seems probable, however, that we may expect at least local recurrences in the near future, with an increase over the normal mortality from pneumonia for perhaps several years; and certainly we should be, as far as possible, prepared to meet them by previous organization of forces and measures for at-

tempted prevention, treatment, and scientific investigation.

There should be no repetition of the extensive suffering and distress which accompanied last year's pandemic. Communities should make plans now for dealing with any recurrence of the epidemic. The prompt recognition of the early cases and their effective isolation should be aimed at. In this connection, attention is called to the fact that the cases may appear to be just ordinary colds. A recent extensive outbreak of what were regarded as "summer colds" in Peoria, Ill., proved, on investigation, to be an epidemic of a mild type of influenza. Experience indicates that these mild epidemics are often the starting point of more severe visitations. Hence every effort should be made to discover as early as possible any unusual prevalence of "colds."

For municipalities operating on a budget basis, it is important that all delay in providing the necessary financial support to the health authorities in dealing with a recurrence of the epidemic be avoided by setting aside an emergency epidemic fund. This may prove of the greatest value in carrying out important preventive measures in the early days of the epidemic, at a time when their beneficial effect is greatest.

The most promising way to deal with a possible recurrence of the influenza epidemic is, to sum it up in a single word, "Preparedness." And now is the time to prepare.

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### EAST TENNESSEE MEDICAL ASSOCIATION.

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The following letter, announcing the meeting of the East Tennessee Medical Association, has gone out from the Secretary. A large attendance is expected:

Dear Doctor:

The next regular meeting of the East Tennessee Medical Association meets in Morristown, Tenn., on Thursday and Friday, October 16-17.

We are expecting you to be there and help us make the Morristown meeting the best in the Society's history.

Make your arrangements to be with us and get acquainted with your brother practitioners in East Tennessee.



You owe it to yourself and your patrons to attend Society meetings and thereby keep out of the "rut."

Our time is limited, so send in the title of your paper by return mail, and then get busy and write it.

The profession at Morristown are arranging to entertain you, and the two days rest from your work and the new points and inspiration we all get will cause you to return to your work with renewed energy. Get busy, and be on hand.

Fraternally yours,

G. VICTOR WILLIAMS, Secretary.

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The importance of nourishment in intestinal disturbances that are so common during the warm weather is now recognized by physicians, and it is also appreciated that the nutrition furnished must be somewhat different than the milk modification usually supplied to the normal infant.

Food elements that seem to be particularly well adapted, mixtures that are suitable to meet the usual conditions, and the general management of the diet, are described in our pamphlet—"The Feeding of Infants in Diarrhea"—a copy of which will be sent to any physician who desires to become familiar with a rational procedure in summer diarrhea.

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# **THE JOURNAL**

OF THE

## **TENNESSEE STATE MEDICAL ASSOCIATION**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

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### **RHEUMATISM IN CHILDHOOD.**

By John M. Lee, M. D.,  
Nashville.

The term "rheumatism" is, perhaps, the most carelessly used of medical words. There is no condition in which there is pain, redness, or swelling of joint or muscle to which this name has not been applied at some time or other. But a broader knowledge of the underlying etiology of various pathological conditions is slowly but surely classifying ill-defined conditions more properly, until today our conception of rheumatism limits the word to denote a particular symptom complex produced by a systemic infection and its resultant pathology. Poynton and Paine contend that the infecting organism is the streptococcus rheumaticus, having repeatedly isolated from the blood and affected joints this particular type of coccus, having grown it on artificial media, and from the growth produced the disease experimentally. Rose now and others have confirmed these findings. There are still others who dissent from this view. But I shall not attempt to argue the question, for I am fully convinced from the evidence thus far produced that we are justified in the belief that rheumatism is the result of an infection.

The infecting agent of this disease has as its portal of entry the lymphatic tissue of the pharynx, the tonsil, about the teeth, and the accessory sinuses, it is claimed. Billings' work on focal infection offers very strong support to this view. As predisposing causes, heredity, exposure to cold and wet, insuffi-

cient clothing, and improper food are to be mentioned. Although seen to some extent the year round, rheumatism is most frequent in the spring months. One attack does not confer immunity, but is more than likely to be followed by others.

In England about eight per cent of the children have rheumatism. In this country the percentage is much less. Colliver found in 1,000 boys in California about the age of puberty 5.2 per cent with evidences of the disease. A majority of the children affected show the disease after the fifth year, and in infancy the condition is extremely rare. I have seen one case in a baby of twenty-two months, with well-defined arthritis followed by endocarditis and pericarditis. From the seventh to the fifteenth year rheumatism occurs as frequently as in adults.

In its clinical manifestations this is one of the many diseases which illustrates the differences which may exist between the symptomatology and course of the same diseases when it occurs in an adult and when it occurs in a child. The earliest signs in childhood are obscure in the extreme, and often most difficult to detect. They are so slow, so insidious and progressive in character that even when fairly well developed they neither give the child discomfort nor the parents anxiety, and are discovered often by accident when the patient is under observation for some other trouble.

In adults it is customary to think of rheumatism as a joint disease essentially, or as an arthritis. Thanks to the investigations of Cheadle and Barlow, working with children, we have a broader view of the subject, and



can accept the condition as a general infection in which the joint symptoms may or may not be the most important evidence. As a matter of fact, in young children especially, the arthritis is of secondary importance in the symptomatology. Cheadle has also brought out more clearly the close connection between many conditions that were formerly not considered rheumatic. And having in mind the adult symptomatology and regarding arthritis necessary for a diagnosis, one will overlook in children many symptoms that are clearly the result of rheumatic infection. Therefore we should remember that in children afflicted with this disease there is seen a group of clinical manifestations that may occur in combination or in succession. Sometimes one member of this group is seen first and sometimes another, but when one member has appeared others are likely soon to follow.

A typical attack of acute articular rheumatism, as seen in an adult, with sudden onset, high fever, severe inflammation of several joints, profuse acid sweats, and occasional delirium, is seldom seen in a child under eight or ten years. In most cases the attack comes on slowly, with a slight pain in one or more joints and perhaps some swelling, but the redness is most often absent. There is a slight elevation of temperature, 100 to 101, with malaise and anorexia. If there is a noticeable arthritis it attacks several joints in succession, as in an adult, but the total number of joints affected is less than is usual for the adult. The ankles, knees, small joints of the foot, the wrists and the elbows are the joints usually involved, the frequency being in the order named. The disease spreading from joint to joint may prolong the fever and arthritis from one to three weeks. Barlow calls attention to the fact that often the hip alone may be involved in a child, and since the condition may persist several days, and the pain may not be accurately localized by a child, this has been mistaken for a beginning tuberculosis of the hip.

Many times there is no definite arthritis, but fleeting pains, felt most in the muscles and not sufficiently severe to keep the child in bed. In such cases these pains are dismissed by the parents as "growing pains."

Still says that the significance of these, so-called "growing pains" in children can hardly be overrated, since they may be the earliest signs of a rheumatic infection, and should be regarded as danger signals. Their presence in a growing child should be sufficient indication for a careful watch on the condition of the heart, since these apparently trivial "growing pains" may be associated with or followed by cardiac disease as severe as any that occurs with the most acute articular rheumatism. Because it may be the first evidence of a rheumatic infection, stiff neck or torticollis coming on acutely is an important symptom in childhood, since it may be accompanied or followed by severe cardiac complications.

Tonsillitis has long been regarded as an important symptom in connection with rheumatism, sometimes ushering in the illness and again following it. Holt states that children who are the subjects of frequent attacks should be regarded as probably rheumatic and should be watched carefully for further evidence of the disease. In the Vanderbilt Clinic, New York, 35 per cent of the cases of rheumatism gave definite histories of tonsillitis. Accurate statistics as to the frequency of this symptom are not to be had, because a child may have a throat infection and not complain of any inconvenience. And the parent's observation of this condition is not to be relied upon.

According to Colliver, the unstable nervous system of the growing child shows very early the influence of the toxin of rheumatic infection. And a rheumatic child is usually a nervous child, easily frightened, extremely irritable, jerking and starting in sleep with "night terrors." Habit spasm is noted frequently in these children.

All writers agree that there is a very close relationship between rheumatism and chorea. Some investigators believe that they have proven them due to the same organism. The work of Mark S. Fraser in analyzing three hundred cases of chorea, extending over a period of twenty years, shows that there is either a personal or family history of rheumatism in 90 per cent of the cases. He thinks that possibly all cases are rheumatic in origin. An attack of chorea may accompany

or precede or follow the rheumatic manifestations. In some cases we may be unable to secure a history of rheumatic symptoms, but this does not eliminate rheumatism as a causative or related factor in the chorea, for in children rheumatism may take the form of recurrent mild infections, and it is possible that there may have been an infection preceding the chorea which was overlooked. The exact incidence of chorea and the relation it may bear to rheumatism will not be determined until we have more definite means of diagnosing both diseases, since each presents such mild clinical evidence in some cases that either may be overlooked.

English writers emphasize the importance of subcutaneous fibrous nodules in the symptomatology of this disease. They are not seen so frequently in American children, and I have seen them in only two cases.

Poynton and others have noted in rheumatic children an obscure fever that is low but persistent. In these cases the fever may subside to a normal temperature each day, and the child may not seem ill, but if kept in bed and examined carefully each day, often the various rheumatic symptoms will appear, even the cardiac manifestations.

The anaemia that accompanies this disease in adults is even more noticeable in children. There are few conditions that produce so great a destruction of hemoglobin and red blood corpuscles in the same length of time, and often the wasting is very marked.

The skin manifestations, the erythema and the purpura, seen in adults with this disease, are not so common in children. But these children perspire freely and are liable to the sweat rashes, either in the form of tiny, pin's-head, clear vesicles, sudamina, or as papules capped with an opaque milky-white vesicle, miliaria. These are not essentially rheumatic; they occur in any condition with profuse perspiration.

From his observations of many rheumatic children, Still has come to regard a number of minor symptoms as being due to the effect of a rheumatic infection. Among these are headache, pain in the epigastrium that is not related to meals, and pain in the lower axilla that cannot be explained by intrathoracic or abdominal conditions.

The great importance of rheumatism in childhood arises from the fact that 90 per cent of all cases show cardiac involvement. This is considered by some to be a part of the disease rather than a complication. While a damaged heart is frequently the result of rheumatism in adults, it does not occur so often as in children. The younger the patient, the greater the liability to heart lesions. Bendix claims that other unexplainable findings in the heart may be the only manifestation of the disease, and that the heart may be involved in the apparently mildest forms in children. Often an obscure febrile attack with no joint symptoms does not reveal its true origin until endocarditis has developed. This is especially true in younger children. For this reason every obscure febrile attack in a child, with or without arthritis, demands a careful daily examination of the heart, so that at the first sign of a cardiac involvement we may begin the proper steps to conserve the heart's power by relieving it of every undue strain. Proper care at this time may save the child from invalidism for the remainder of his life, and will do much to prolong that life.

The endocardium, the myocardium, or the pericardium may be involved, and in some cases all three are damaged, though the authorities disagree as to which may first feel the effects of the rheumatic infection. In the beginning an endocarditis may be the most obscure symptom and is most difficult to detect. The first effect of the infection results in a degeneration of the endothelium of the valves and the formation of very small nodules, and at this time we may not be able to detect any abnormality even on a very careful examination. We are told that the toxin of a rheumatic infection has a marked relaxing effect upon the heart muscle, giving a loss of tone and dilatation of the heart chambers. The fibres about the mitral and tricuspid valves may become relaxed and allow regurgitation. The signs of a pericarditis do not differ markedly from those of the adult type. Previous to the development of abnormal sounds or signs of cardiac dilatation or enlargement, the first evidence of damage to the heart may be an irregularity or an intermittency of pulsation. This, with or with-

out prolonged fever, should make us suspect the spread of the infection to the heart. The first attack of rheumatism may spare the heart, but it is almost sure to suffer from repeated attacks.

Although "growing pains," or stiffness or swelling of the joints in a child should always suggest rheumatism, it should not be forgotten that other conditions may cause these symptoms. As a rule a child under two years of age with joint trouble is more than likely not rheumatic. During the last few months of the first and during the second year scurvy is often encountered. In this condition the pain and tenderness on handling are more general, does not move from joint to joint, subperiosteal hemorrhages may be detected, the gums are swollen and purple, there is a history of prolonged feeding of cooked food, and the condition is relieved with orange juice, and not influenced by salicylates.

Acute rickets gives pain and swelling of the epiphyses, but the joints are not affected, the condition comes on gradually, the swellings do not move from one member to another, and usually the characteristic bony deformities of thorax and skull with a history of improper feeding help to differentiate this from rheumatism. Furthermore, antirheumatic treatment is of no benefit.

In an infant under six months of age, syphilis is the most common cause for joint symptoms, in the absence of sepsis. Syphilitic epiphysitis may be associated with a syphilitic syovitis. A Wasserman on the baby or mother would assist in the diagnosis here.

A septic arthritis is sometimes encountered in infancy in which one or more joints may be involved. This comes on acutely with high temperature and the general and local symptoms are more severe than in rheumatism. Also suppuration usually occurs in one or more joints. This never occurs in a rheumatic infection. Rarely a gonorrheal arthritis is seen in infants and children who have had ophthalmia or vulvo-vaginitis at birth. The gonococci have been found in the joints in a few cases, but in the absence of a bacterial examination the diagnosis is extremely difficult. In these cases the salicylates are of no benefit, and the history of the infection may help to a correct diagnosis.

In children over two years of age tuberculosis of bone or joint is not uncommon. Here the symptoms are more likely confined to one joint, and do not move from joint to joint, as in rheumatism. The onset is more gradual, and a family history or history of exposure to infection should be suggestive.

The prognosis in children with rheumatism is more grave than in adults, some authorities stating the fatal outcome as high as 20 per cent. Besides this, many others are left with permanently crippled hearts and a life of invalidism for their remaining days. The point of greatest practical importance is to warn the parents of the great liability to heart disease, and to impress upon them the extreme importance of prolonged rest if there is any suspicion even that the heart may be damaged.

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#### FRACTURE OF PELVIS.\*

(Reports of Four Cases. Illustrated with Lantern Slides.)

By E. T. Newell, M. D.,  
 Chattanooga.

Fractures of the pelvis, on account of the strength and the elasticity of the component parts, is a very rare fracture. Von Bergman's surgery reports that among nine thousand injuries twenty-five one thousandth of one per cent were fractures of the pelvis, and the same authority reports that of all fractures

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



three tenths of one per cent are fractures of the pelvis.

From time to time in our emergency railway and industrial service we have encountered fractures of one or more of the bones of the pelvis. I came upon four cases of fracture of the pelvic bones in the past year, and some points in connection with them seem worthy of reporting. All of them were the direct result of compression between heavy bodies, such as head-on collision between street cars, mining cars, fast train and auto, and overturned automobile. The bones of the pelvis may be fractured in almost any conceivable manner, but the most usual fractures of the pelvis are: First, fractures of the ilium (usually the crest); next, fracture of the pubic bone, fracturing both the horizontal and descending rami, and last, fractures of the ischium. The fractures of the pubic bone may be bilateral, and are often symmetrical. Sometimes there is a separation of the symphysis anteriorly, and the sacro-iliac synchondrosis posteriorly. This latter condition, however, is quite rare. The rarest form of fracture of the pelvis is where the head of the femur is driven through the acetabulum. Fractures of the bones of the sacrum and the coccyx are familiar to all of you. The fractures of the pubic bone are of special interest, not only on account of their frequency, but by reason of the serious complication to important structures in close proximity. The urethra is frequently torn in fracture of the descending ramus of the pubis, and the bladder ruptured, either intra- or extra-peritoneally in fracture of the horizontal ramus. These complications occurred in two of the four cases I am to report. The blood vessels, external iliac, pudic, sciatic, and obturator are frequently torn, as well as injuries to the nerve and the intra-abdominal contents.

The symptoms of pelvic fractures are not as plain as might be expected, considering the force necessary to produce such a fracture. The patients so often have so many other injuries when brought to you that the pelvic fracture is frequently overlooked at the first dressing. Then, too, unless the patient attempts to get up or the pelvis is moved, the pain is often quite negligible. A great many of the old surgeons did not fully appreciate

the value of x-rays in the early diagnosis of these conditions, relying on crepitus, localized pain, rectal and vaginal examination, blood in the urine, etc., for positive diagnoses. I cannot emphasize too strongly the value of the x-ray examination in these cases, especially so as the diagnosis by manipulation is not only painful, but dangerous. It is very much like the old practice of probing a gunshot wound—you do more harm than good. Patients with fracture of the pelvis are usually severely shocked and have a point of localized tenderness that can usually be found if carefully looked for. There is frequently urinary disturbances, retention of urine, bloody urine. These factors, together with the history of the injury, should lead you to suspect a fracture of the pelvis. Inability to walk or freely move the extremity is a valuable adjunct in the diagnosis, but by no means a positive or always applicable diagnostic sign. A good radiogram, preferably stereoscopic views, is the one safe and positive diagnostic principle where access to an x-ray equipment can be had. If in doubt, place the patient on his back on a firm bed and be on the lookout for complications. If the urethra has been injured, the immediate surgical intervention will depend upon where the injury is located and whether or not complete or partial rupture has taken place. If the bladder has been ruptured, the appropriate treatment will likewise be dependent upon whether the injury is extra-peritoneal or intra-peritoneal, with its accompanying peritonitis, bowel obstruction, etc. I would not detail to you the different methods of procedure in the various complications, but will bring to your attention the more important one in detailing the treatment of the cases of my series.

The prognosis depends upon the extent of the injury to the bones and the complications. I may say that in simple fracture, with only slight injury to the soft parts and no injury to nerves, vessels, bladder and urethra, that the prognosis is exceedingly good with regard to recovery, both as to the life of the patient and to the restoration of function. When the urethra, bladder or large vessels are injured, unless prompt surgical intervention is instituted, the patient's life is in danger from local infection, general peritonitis or hemorrhage.

### Treatment.

The treatment in uncomplicated cases is very simple. It may be summed up in a few words: proper immobilization in bed and the proper nursing. The bed that we have been using for the past year is what we call the Allen stretcher. It is simply a large stretcher, a little shorter and narrower than an ordinary hospital bed, that has an opening five inches in diameter made in the center so that when raised at the head and foot a bed pan can be easily slipped under it for use when the bowels or bladder act. It is the one greatest comfort that I have ever seen in the treatment of these fractures. The patients who have used this simple device are among the most grateful patients I have ever had, for the comfort it has afforded them.

Maj. H. R. Allen, who first induced me to use this stretcher, was an instructor in orthopedic surgery at the medical officers' training camp, Camp Greenleaf, last year. This class of patients need a very capable and conscientious nurse to prevent bed sores and make them comfortable during their six or eight weeks on this bed. The same bed is used for the cases with complications, the surgical treatment varying, however, with the conditions found, as will be seen from the following case reports.

**Case 1.**—J. C. W., male, age 45. Motorman on street car. Was injured March 28, 1918, in head-on collision between street cars. He sustained, besides a fracture of the horizontal ramus of the os pubis and ascending ramus of the ischium, a fracture of the left tibia and about a half-dozen cuts on the face and extremities.

As soon as he reached the sanitarium, his leg was x-rayed and put up in a temporary dressing; the minor cuts were sutured. He did not complain of pain in the pelvic bones, and as he was brought in on a stretcher and handled very carefully, trouble in this region was not suspected until the next morning, when the nurse reported that the patient complained of his hip hurting him, and that three hypodermics of one-fourth grain morphine each had been given during the night without relief. On examination there were no marks of traumatism to his pelvis, yet he had an exquisitely sensitive

point over the horizontal ramus of the os pubis on the left side under the external iliac artery, and also one between the legs over the junction of the descending ramus of the pubis and the ascending ramus of the ischium of the same side. His pelvis was x-rayed and a fracture of the bone corresponding to the points of tenderness found. As the outer fragments had ascended, and the apposition was not good, under general anaesthesia an attempt was made to improve the position of the bone, being careful not to injure the soft parts in the region of the fracture. He was placed on the Allen bed and kept on it until discharged June 1, 1918, a little over eight weeks. However, the fragment of the fractured horizontal ramus injured the external iliac artery of that side, producing gangrene of the leg up to the knee, which necessitated amputation above the knee, on the tenth day following the injury. This man has an artificial leg now and gets about with only a slight limp.

**Case 8.**—J. V. K., white, male, age 32. Hoisting engineer. On June 13, 1918, while in an automobile crossing a railroad track, was hit by a fast train. He was brought to the sanitarium on a stretcher. He had cuts on right arm, bruises about his face, and the skin abraded and lacerated on one of his legs. First aid was rendered, and a hypodermic of one-fourth grain of morphine was given for the shock that he seemed to be suffering from, and the patient was put to bed. He complained, however, of pains in the lower abdomen, saying that he had been hit in this region when the accident occurred. He was questioned about urinating, and said that he had voided his urine just before the accident. This was about 8:30 p. m. He rested fairly well until 1 a. m., when he complained of suffering terribly, and was unable to void his urine. It was drawn without difficulty, but was quite bloody and only a small quantity. He received two more hypodermics of morphine between this time and 10 o'clock the next morning, and as he was suffering from a desire to pass his urine at this time, it was accordingly drawn again. This specimen was also bloody. X-rays taken at this time showed a fracture of the horizontal ramus of the os pubis and the ascending ramus of the

ischium on the right side. The horizontal ramus showed a small fragment near by, though not completely torn off. As the bones were in poor apposition, he was anesthetized and an attempt made to improve the position of the fracture. The following day the patient became delirious, the abdomen was hard and distended, the pulse rapid, and he presented all of the symptoms of a beginning peritonitis. The enemas given had no effect, and vomiting was frequent. His abdomen was opened the same afternoon, the incision extending from a point over the fracture of the horizontal ramus up the abdomen for a distance of three and a half inches. The tissues were infiltrated with blood and urine, and when the peritoneum was opened the abdomen was found to contain a large quantity of urine and blood. The bladder had a rent in the left side intra-peritoneally the size of a thumb. The intestines were enormously distended, and the general condition of the patient extremely grave. A tube was placed in the opening of the bladder, a second tube behind it, down in the cul-de-sac an opening was made in a greatly distended loop of the intestines, a third tube introduced into this opening, a purse-string being thrown around it, and a fourth tube was inserted in the abdomen in the region of the right kidney. The abdomen was flushed with warm saline and closed with few interrupted catgut and silk-worm gut sutures. When he came off the operating table, he was, of course, in a very bad condition. The bowels, however, drained profusely in a bottle to the side of the bed for the next twenty-four hours, and urine drained freely in a massive cotton dressing that was frequently changed. The patient progressed nicely from this time on; and on July 29th, six weeks after the operation, an incision was made to the side of the first incision and the openings in the bladder and intestine closed. The second incision was closed, but the original incision was left open and four Dakin tubes inserted, Dakin's solution being run in every two hours. A self-retaining catheter was placed in the bladder. This tube became stopped during the fifth night, and the patient pulled it out in order to allow the urine to escape, but did not do so in time, as the old opening in the bladder

burst open, and urine began to drain through it. The opening in the bowel, however, healed promptly, as did the original incision, leaving only a small fistula into the bladder at the lower end of the old incision. The patient recovered sufficiently to go home, but returned on December 13, 1918, when the fistula was excised, the opening in the bladder closed along with the removal of a small piece of the fractured ramus of the os pubis. The scar tissue was dissected out of the original incision and the muscles and sheaths approximated and closed. The patient made a rapid recovery, going home on the fourteenth day. He returned for inspection on March 25th of this year. Is urinating normally, bowels acting regularly, has no hernia, walks without a limp, weighs more than he has ever weighed in his life, and can do as much work as he ever did.

**Case 3.**—J. B. B., white, male, age 20. Mortorman in coal mine. On January 20, 1918, while operating electric motor in coal mine, was caught between two coal cars, one in front over the pubic bone, and one behind over the sacrum. The skin was not broken, but he said he was bruised and contused. He was taken to Nashville and placed in a hospital, where he remained for about three weeks. X-rays taken at that time showed a fracture of the descending ramus of the os pubis, left side. His pelvis was strapped and he was kept in bed on his back. He passed blood in his urine when urinating, which he said was very difficult. After a few days he could not pass his urine, and it had to be drawn for two weeks. When he left the hospital, he could void a little urine, but with great difficulty. After being at home a few months, he returned to Nashville for operation, but for some reason after staying for a week, he went home. On May 18, 1918, he came to me, suffering from retention of urine, only being able to pass about a dram or two of urine at a time, and this was accomplished by a form of masturbation, the urine coming out in jets when the penis was in the erect state. On inspection, the bladder was found to be full and prominent. A catheter could be passed down to the membranous urethra but not further. A filiform could be passed with difficulty into the bladder. A radio-



gram showed a fracture of the descending ramus of the pubis, which had no doubt injured the membranous urethra. Supra-pubic cystotomy was done, a sound passed from the bladder to the site of the stricture in the urethra, meeting one of the same calibre passed from the meatus. The bladder sound was carefully forced through the stricture and brought out at the meatus. A self-retaining catheter was threaded on the bladder end of the sound and brought through the urethra. The catheter was left in place for eight days. A large drainage tube was put in the supra-pubic wound for a few days. The patient went home in twenty days, the wound closing in the bladder, the patient urinating normally.

**Case 4.**—G. H. R., white, female, age 28. Housewife. While riding in auto, February 1, 1919, the machine ran off of a bridge, turning the car over on her, fracturing her pelvis. She had several cuts about the face and extremities. X-rays showed fracture of horizontal ramus os pubis and ascending ramus of the ischium, right side. The skin over these areas was not broken. She complained of pain in the left leg and right hip, was very cold and much shocked when brought in. We took a radiogram of the right hip and in that way found the pelvic fracture. The approximation of the bones was not good, but as the urine was clear and the bony fragments jagged, I advised rest in bed on the Allen stretcher, watching the case for developments. She made an uneventful recovery, going home March 27, 1919. She has no shortening and no loss of functions, and is walking around on the streets the past week, with the assistance of one crutch.

These four cases illustrate fairly well the simple fractures of the pelvis and those with complications. Case 1, fracture of the tibia with fracture of the horizontal ramus of the pubis and ascending ramus of the ischium, complicated by injury to the external iliac artery of same side followed by gangrene and amputation of leg; Case 2, the most formidable one of the series, fracture of the horizontal ramus os pubis and ascending ramus ischium, right side, with rupture of bladder, peritonitis and obstruction of bowel; Case 3, fracture descending ramus of os pubis with

rupture of membranous urethra, followed by stricture of same; Case 4, simple uncomplicated fracture horizontal ramus pubis and ascending ramus of ischium; no complications.

All cases recovered; all have good functional results with exception of the case that had to have leg amputated, and he has no pain or discomfort at the pelvic fracture. There was no special treatment of the pelvic fractures aside from the immobilization of the patient on the back upon the Allen stretcher.

From my recent limited experience with these cases, unless there is very great separation of the fractured bone, I am of the opinion that the less you manipulate the bone, the more quiet you keep the patient, the less complications you will have and the better will be your results.

#### DISCUSSION OF PAPER OF DR. NEWELL.

Dr. Duncan Eve, Nashville: I regret very much that I was not present when Dr. Newell began to read his paper. However, I heard most of it, and am very glad to have this opportunity to compliment the author on his paper, especially the interesting points he brought out in regard to drainage of pelvic fractures.

Fractures of the pelvic bones are to be considered very much as fractures of the skull and of the spine. It is not the condition of the bone we are looking at so much as it is the contents in the cavity. In a fracture of the pelvis, if we knew there were no viscera involved, we could perhaps with very little surgical effort resort to immobilization and obtain always a good result; but the trouble is that too frequently we have visceral involvement or complications, particularly the bladder, and therefore it was well to hear Dr. Newell emphasize the importance of drainage in this class of cases. Incontinence is usually present, and bloody urine is frequently noticed, so that we should not waste time in performing a cystotomy, and usually it is better to make a perineal cystotomy. Particularly is this of importance when the fractures are at a high level and involve the ilium, or posteriorly the fracture is so located as to involve the sacroiliac joint or synchondrosis, so that the opening made is far removed from the seat of fracture. In many cases we will have extravasation of blood, which too often produces deep abscesses that bring about serious complications and untoward effects from which the patient dies.

I was very much impressed with the apparatus that was improvised by the doctor for the care

of these cases. It was certainly ingenious. Heretofore we have employed immobilization by using large adhesive strips, with long and heavy swaths of cloth to reinforce the plaster of Paris bandage or spica, where it can be employed. The doctor's apparatus is an improvement over the ordinary plan of immobilization that is called for. The ordinary plan of immobilization can be reinforced by the use of a water bed or air bed. Patients are to a great extent depressed in the soft bed and the surrounding air or water bed give additional immobilization of the parts that we would not have otherwise. We find in all of these cases that proper immobilization is of the very greatest importance, because it causes less extravasation. Immobilization causes the condition to be more localized, and we find, furthermore, in this manner we can perhaps prevent very much the more serious consequences that require open operation.

I was very glad indeed to hear the doctor commend that a minimum of trauma in connection with operative interference should always be attempted. We inflict too much trauma usually, and I am afraid the pendulum is swinging now, as it is in all open fractures, to interfere to too great an extent.

I have been much interested in reading hospital reports of cases that were treated in which they were attempting immobilization alone by open fixation methods of some kind, perhaps by means of the buried suture, such as kangaroo or catgut, and some even employing plates, as I noticed not long ago. We should leave this to the very last, only when it becomes absolutely necessary for open operation to be done. I treat these cases more expectantly, particularly the symptoms as they arise rather than the general conditions. As stated, I have found that the cases are serious in proportion to the extent of visceral involvement rather than from the fracture per se. I never before saw a case, or a skiagram shown of a fracture of the acetabulum in which the head of the bone had passed entirely through the acetabulum. This case of Dr. Newell's should by all means go upon record.

Dr. Newell should be congratulated on the excellent results he has obtained in the cases reported.

Dr. Willis C. Campbell, Memphis: Fractures of the pelvis are far more common than the literature of the subject would lead us to believe. I have seen quite a number of these cases.

I was much surprised to hear Dr. Eve say that he treated them expectantly, because we should take into consideration the position of the bone or bones in fractures of the pelvis. I consider it a great error not to consider the position of the bone in a fracture of the pelvis. Some of the most disastrous deformities, serious, painful, un-

reducible, I have ever seen in any injury have been from fractures of the pelvis.

I recall the case of a young lady who was injured by a train while riding on a horse. She was in great pain. An x-ray picture was made by a portable x-ray machine. Of course, this is an unsatisfactory way of making an x-ray picture. A diagnosis was made by the radiographer of no fracture of the pelvis. The girl was brought to me two years later. One leg was practically shorter on account of tilting of the pelvis. The whole pelvis was so twisted that it affected the entire spine. She was suffering great pain. All we could do to correct such a case as that would be to perform an extensive osteotomy of pelvis and a very dangerous one, which I did not feel like undertaking.

Another case was that of an older woman, who received a similar injury, with considerable deformity. Of course, when you have complications, such as bladder injury or visceral injuries, they should receive immediate attention.

Dr. Newell is certainly to be congratulated on the excellent results he has achieved in these four cases. Every case I have had to deal with died when the bladder was torn.

There are several other propositions to be borne in mind in connection with these cases in women. There is the obstetrical side to be considered years later. If the woman is of the child-bearing age it may greatly affect that problem, and should be seriously considered.

I believe that we should inflict the least amount of trauma in our operative work on these cases. If the fracture goes all the way through the ilium and anterior superior spine of the ilium, there is usually displacement inwards and upward, and we frequently can accomplish a great deal by manipulation. Where the fracture extends all the way through I would recommend the use of cast, applied on a Hawley table and making traction on both limbs with pressure above where we can get fair alignment in the pelvis and avoid distortion afterwards. Also in fractures involving the pubic region, adjustment may be made through the vagina or rectum; this method of treatment will greatly aid in restoring the fragments to their proper position.

I have had one case of fracture in the region of the symphysis pubis where there was four or five inches of separation. This case I treated by an open operation. The parts can be sewed together with kangaroo tendon or with silk, which I used in this particular case with an excellent result.

Dr. Duncan Eve, Jr., Nashville: I have seen a number of cases of fracture of the pelvis, and have been surprised to notice how well these patients get around, and not knowing there was a fracture.

Two or three months ago we had a man come

to us who had been confined for two weeks. He had a little limp, but managed to get along with a cane. He had slight tilting of his pelvis, and I sent him to the City Hospital to be x-rayed, and found he had seven fractures of his pelvis. I think we would find more of these fractures if we would resort to the use of the x-ray. This case was not complicated by visceral involvement. In this case we obtained very good results.

In regard to the remarks made by Dr. Campbell, where we have marked displacement, I do not see how it is possible to get alignment of these fragments by pulling or by traction. It is practically impossible to get such alignment, it strikes me.

Dr. Newell (closing): I am glad Dr. Eve, Senior, called attention to the water bed. I failed to say in my paper that we are using sand bags around these cases for a few weeks to support them on the side and occasionally under the knees in order to make the patients more comfortable, and we do not keep the leg in one position all the time.

In reference to Dr. Campbell's remarks, I would not like to be understood as not trying to overcome great distortion of the fragments, but I was speaking more particularly of where the displacement is not very great. If the displacement is slight, then I believe the less you do to them, and put them on the Allen splint or any other suitable bed, the better you will get along. The only two cases in which I attempted to replace the fragments were the two instances in which we got complications. I would not hesitate in cases in which there is great displacement of the fragments to attempt to reduce them. In the pregnant female, if you have a fracture of the pelvis with great deformity, especially of the descending ramus and of the os pubis, one could perform Cesarean section and deliver the child in that way.

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### DIFFERENTIAL DIAGNOSIS OF FOLLICULAR CONJUNCTIVITIS AND TRACHOMA.

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By C. M. Capps, M. D.,  
Knoxville.

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I select this subject for discussion tonight because there seems to be quite a little confusion at the present time in connection with the physicians who are examining the pupils of the public schools of Knoxville, and it seems the two above diseases are more often confounded than any others that belong to the pathology of the eye. Out of a total of 29,242 blind people in the United States,

more than 600 were blind from trachoma. Out of a total of 60,000 blind in 1910, more than 1,200 were blind from trachoma alone, and out of the entire 60,000 not one was blind from follicular conjunctivitis, so in diseases that offer such wide difference of pathology it seems it ought not to be so very difficult to make a differential diagnosis. Dr. Fuches, of Vienna, in speaking of follicular conjunctivitis, says: "The follicles are most frequently observed in youth, and especially in day schools and boarding schools, etc. In many school children the disease exists in a perfectly latent form, as in spite of there being a considerable number of follicles, the conjunctiva is not reddened and causes no symptoms of any kind, so that the trouble is discovered only by medical examination."

In 14,797 children examined by Sydney Stephens, of London, England, 93.99 per cent had follicular conjunctivitis and only 46 per cent had trachoma. These children were from the ages of 2 to 19 years. Now, if Dr. Stephens had not been able to differentiate between trachoma and follicular conjunctivitis more than 10,000 school children would have been excluded from the public schools of London, hence the great importance of being able to say what number of children should be excluded from our public institutions. It is a grave mistake to deprive a pupil of a reasonable education, and the school boards of our country should be diligent to see that every suspicious case of eye trouble should have the most thorough examination that is available.

To go more thoroughly into the discussion of these two diseases, it will be necessary to notice to some extent the anatomical structure involved. The conjunctiva is not unlike a tobacco pouch, with its closing orifices corresponding to the anterior portion of the palpebral fissure. We find this conjunctiva covering the entire globe of the eye and also covering the under surface of both the upper and lower lids. That portion that covers the under surface of the lids is known as the palpebral conjunctiva. That portion that covers the ball of the eye is known as the bulbar conjunctiva. The portion of conjunctiva that forms the folds of transition is known as the conjunctiva of the fornix. The



conjunctiva throughout is of the same structure, but presents numerous differences in appearance. The palpebral conjunctiva adheres very closely to the under surface of the lids, so much so that you cannot move the conjunctiva of the lids without moving the lids themselves. The bulbar conjunctiva adheres very closely to the cornea of the eye, and becomes more loosely attached as it passes backward to form the folds of transition in the fornix, where it is very loosely attached to the ball of the eye, allowing very free motion of the eye in every direction. To remember the looseness of these folds will aid in making a correct diagnosis of the two diseases under consideration, for in these folds of conjunctiva are found numerous cells that form the tissues on which both diseases depend.

To make a differential diagnosis of any pathological condition, we must first be able to make a diagnosis of the disease under consideration, and then be able to point out in what particular respect it differs from other affections. In order to make myself more comprehensive, I will first take up follicular conjunctivitis and give a plain history and description of this form of conjunctivitis. First, follicular conjunctivitis is a disease of early childhood, cases being more prevalent up to the twelfth or fourteenth year of life. It is a disease that is found in all institutions where a large number of children congregate, such as public schools, day schools and asylums. This condition seems to prevail more persistently in bad atmosphere and poor light; poverty and all the insanitary conditions that attend upon it seem to favor this disease, but by no means does it follow that the better classes are not affected with follicular conjunctivitis. Indeed, no class of society is exempt from the condition. The history of follicular conjunctivitis is generally negative. In fact, most of the cases that come under observation are children who are examined in our public institutions and their condition is then first made known to them. In fact, the parents of the child, nor the child itself, are aware of any eye trouble whatever, for most of these cases do not show any inflammatory condition of the eye; the bulbar conjunctiva is normal in color, and is infre-

quently congested, if at all. There is no photophobia in any of the cases, and in the more severe cases lachrymation is not greatly increased. The diagnosis of follicular conjunctivitis must be made by inspection; in looking at the patient we do not see any ptosis or drooping of the upper lid—we do not see any redness of the conjunctiva except in the most advanced cases, and then very rarely; we do not see any deformity of the eye-lids, either from congestion infiltration or scars; we do not see any entropion nor ectropion; the cilia are not distorted nor disturbed; there is no pannus nor corneal ulcers following follicular conjunctivitis. The only thing we do find is on everting the lids is follicular bodies. These bodies are always more numerous in the lower lid than they are in the upper. The follicles are almost always arranged in rows like a string of beads that correspond with the margin of the lids; we never find the conjunctiva either thickened or infiltrated by this disease; we never find scar tissue in follicular conjunctivitis. The follicles never penetrate beneath the superficial conjunctiva; the follicles are never confluent, nor run together, but always remain single and distinct from each other, and are about the size of a pin head, somewhat pale in color and puff up the conjunctival tissue. These follicles are more numerous in the conjunctiva of the fornix, and are exposed by everting the lids. This description will suffice for follicular conjunctivitis. Follicular conjunctivitis is not contagious.

#### **Trachoma Presents a Different Picture.**

Since the day that Napoleon's army marched back from Egypt has the western world been scourged with trachoma, or Egyptian ophthalmia. The devastation that this disease has wrought has been more terrible to the human race than all the swords of Napoleon. True, he sent terror to the hearts of Egypt for a short time, but Egyptian ophthalmia is a terror for all time to come.

Trachoma is essentially a disease of adult life. True, children may be and are affected with it, but not nearly so common as grown-up people. Different races of people seem to be particularly susceptible to its ravages; the Arabians, the Jews, the Poles and the

Russians seem to suffer most. Altitude seems to play an important part, both as to its severity and communicability. In high altitudes trachoma is almost unknown, while on the lower plains it occurs almost in epidemic form. Cleanliness, no doubt, cuts a great figure in this disease. Fresh air and hygiene is one of its best preventatives.

When we come to examine the individual patient suffering from trachoma, we find this: If the disease is in its incipency, narrowing of the palpebral fissure, either from photophobia or from ptosis; the upper lids drop in this disease from excessive congestion and infiltration of the conjunctiva of the upper fornix; the patient complains of a burning sensation in the eyes, with excessive lachrymation, or even a mucopurulent discharge; the lids are gummed together in the morning and the secretion is hardened and dry and has to be washed away with warm water; the bulbar conjunctiva is congested and red with pronounced photophobia; we may see a thickening pannus, extending down to or over the cornea; we may see corneal ulcerations in their active form, or scars of former ulcerations; we often see an ectropion or entropion; the cilia are often distorted in their arrangement; the lids themselves often have a leathery thickening that distorts their shape and appearance; on inspection of the eye we find, by inverting the lids, a deep-seated granulation that causes infiltration and hypertrophy of the superficial conjunctiva, and also the deeper conjunctival tissue; we find the upper fornix and the conjunctiva of the upper lid more deeply and more seriously infected; we see the granulations extending profusely back to the folds of transition and often onto the bulbar conjunctiva itself. These granulations, as a rule, do not run in well defined rows; neither do they remain single granulations, but become confluent and soon lose all semblance of granulation, becoming one thickened mass of irregular conjunctival tissue; we find the everted lid marked by scars and contracted by scar tissue; the granulations are always more numerous on the upper lid—in fact, in a great many cases, the lower lids are hardly affected at all, and almost al-

ways the deformity of cicatricial contraction is largely confined to the upper lids; corneal ulcers are very frequent in the earlier stages and pannus nearly always develops in the untreated and chronic cases, ending in loss of vision and often in complete blindness. This is a picture of dejection that is rarely surpassed by any pathological condition that confronts the human race. The suffering that these unfortunates undergo is probably not very much surpassed by the inferno itself.

### **Follicular Conjunctivitis.**

1. A disease of childhood.
2. Has no painful symptoms, and often is not suspected until examination.
3. Never causes blindness nor impairment of vision.
4. Is not a cause for military rejection.
5. Never causes pannus, corneal ulcers nor contraction of the lids.
6. Granulations always greatest in lower lids.
7. Granulations never confluent, conjunctiva never thickened.
8. Is not contagious in any of its forms.
9. Is a disease of no consequence, even when left untreated.
10. No ptosis or drooping of the upper lid.

### **Trachoma.**

1. A disease preferably of adults, but may be found in young children.
2. Is always painful with pronounced conjunctivitis, lachrymation and photophobia.
3. Often causes complete blindness and nearly always partially destroys the vision.
4. Always a cause for rejection.
5. Often causes pannus, corneal ulcers, and always causes cicatricial contraction of the lids.
6. Granulation always greatest in upper lids.
7. Granulations almost always confluent, and the conjunctiva always thickened.
8. Contagious under favorable conditions.
9. Is a disease of gravest consequence, even under the most modern treatment.
10. Often ptosis and narrowing of the palpebral opening.

**THE PUZZLE OF THE GASTRIC ULCER.\***

By W. N. Lynn, M. D.,  
Knoxville.

In spite of all our advances in the methods of diagnosis, gastric ulcer remains, in the opinions of some of our greatest clinicians, the hardest intra-abdominal lesion to diagnose.

One would not think the condition could be thus, when we read in our many text-books of the clear-cut symptoms and of the apparently dependable diagnostic signs of stomach ulcer, but unfortunately the practice is harder than the theory, the symptoms are not all clear-cut, the apparently dependable diagnostic signs often fail, and we go on, in spite of all, failing to diagnose the gastric ulcer, until, alas! it is often too late to be of much service to the patient.

Although gastric ulcer is quite common in this country, it is far more common in England and Europe, Brinton estimating that 5 per cent of all deaths in those countries are due to this disease. If we look in on the average boarding house at meal time, and see there the men and women hurriedly gulping their food, failing to masticate properly, failing to properly mix the food with the salivary juices, the food passing almost immediately into the stomach, the individuals in a nervous hurried state, we wonder that the stomach can stand the strain as long as it does and that ulcer is not more common.

In our treatment of any disease it is best to remedy the cause, if this be still active. Who can determine the cause of gastric ulcer? Who can solve its puzzle? Histologists teach us that in the mucous coat of the stomach, and partially also in the sub-mucous coat, there are located patches or collections of lymphoid tissue. These patches are in greater number among the lesser curvature and in the prepyloric portion of the stomach, and rare in the cardiac portion. In the healthy stomach these collections are small, but when inflamed they swell up, push apart the mucous glands to each side, and reach the sur-

face. We now have the beginning pathology for an ulcer.

First. It may simply resolve. We call this acute gastritis.

Second. It may break down in the center and a drop of pus be discharged. We call this acute gastritis still.

Third. The follicular inflammation, if in contact with a blood vessel, may erode its walls, cause a miliary aneurysm, and finally lead to rupture of the vessel. We call this ulcer with hematamesis.

Fourth. The ruptured follicle, discharging the bead of pus, may allow the gastric juice to enter, to digest the coat of the stomach, and bring about the funnel-shaped, dangerous, acute perforating ulcer. Normally the edges of the mucous membrane fall together, prohibiting the entrance of the gastric juice into the wall of the stomach, but if for any cause—for instance, deposit of fibrous tissue in the edges of the ulcer, due to repeated inflammatory attacks—the edges do not fall in contact, the sub-mucous coat is left unprotected, the gastric juice enters, and the perforating ulcer is the result.

Fifth. Or the entry of the gastric juice may lead to chronic ulcer, and so later to carcinoma.

Now comes the physiologist, trying to produce gastric ulcer by the introduction of certain drugs into the circulation, but he has been rarely successful. The pathologists brought forward the "contact ulcer" to support the theory upon which they were working—the ulcer often found on the stomach opposite a chronic ulcer—stating that these contact ulcers were the result of terminal necroses due to embolism of a vessel on the lesser curve, just as blocking of the abdominal aorta might lead to gangrene of both legs, but not the thighs. The pathologist looked for the emboli, but neither with the naked eye nor with the microscope was he able to find them, and saw them only with the eye of faith. After all, does it not seem more logical to believe that these paired ulcers are not embolic at all, but that they are the result of direct infection of the lymphoid follicles from the septic surface of the primary ulcer?

Be these things as they may, be we right or wrong in our opinion as to the histology

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and pathology of gastric ulcer, be we together or divided as to its cause, course and treatment, we all can conscientiously gather around the common opinion that it is the great likelihood of carcinoma following in the wake of ulcer that causes the greatest fear, and brings upon us all the greatest sense of helplessness. What one among us can solve the puzzle of gastric ulcer carcinoma? Whose theory will stand the test of the years, and whose opinion will weigh for aught in the scales of actual experience? We look with dread upon the cold statistics which place cancer of the stomach in first place of all cancers as a cause of death.

We are told by the Mayo clinic that 71 per cent of all cancers of the stomach have their origin in simple ulcer. We know something of simple ulcer, we think, and come boldly forward with our pain, vomiting and hematemesis symptoms, with our bread and water meal, with our stomach tube and our string—we surround ourselves with the most tedious laboratory technique, and pride ourselves in our dependable clinical histories, yet withal gastric cancer leads the list of all cancers.

Give a clinical history of gastric ulcer. Give the differential diagnosis between ulcer near the pylorus and duodenal ulcer. What lesion is more deceiving? Indeed, who can say, with any degree of certainty, that he can diagnose gastric ulcer at all? The so-called classical symptoms of gastric ulcer—pain, hemorrhage and vomiting—it is now known may be presented in appendicitis or in simple intestinal kink, as has been proven by laparotomy done for gastric ulcer, and no ulcer found, but instead an appendix or kink. It would seem, therefore, that a clinical history of ulcer is no evidence that ulcer has existed at all. Irrefutable statistics will support this statement.

Suppose at operation a simple ulcer is excised, and, as is frequently the case, the pathologist finds groups of cells resembling carcinoma, surrounded by connective tissue, at the margin of the ulcer. (It seems hard to believe that one can say whether such cells in small isolated groups are innocent or malignant, but for argument's sake we will allow this point.) If this ulcer history goes

back four or six, or even eight or nine years, what evidence have we that the ulcer was not malignant from the first? Who can deny such possibility? Until we know more concerning the life history of gastric cancer, are we in position to deny that gastric cancer may exist for years? Patterson, of London, reports opening the abdomen of a man who had gastric carcinoma too far advanced for removal. Sections of the tumor were taken and the tumor proven to be carcinoma. He performed anterior gastro-jejunostomy. He took a piece of the mucous membrane of the stomach at the site of the anastomosis, and found nodules of carcinoma cells in that part of the stomach also. The patient was ill two years before operation, and seven years after operation the man is apparently perfectly well—a case of gastric carcinoma of nine years' duration! This case shows that we know but little about the clinical history of carcinoma, and when we say a patient has an ulcer history of six or seven years, how can we know, clinically, whether the symptoms are due to malignant disease or simple ulcer—or, indeed, if the lesion is in the stomach at all?

Again, we are told by men doing much stomach surgery, especially in England, where cancer of the stomach is a very common disease, when operating for carcinoma of the stomach, they often find a healed gastric ulcer some little distance away from the cancer. These patients then have a carcinoma plus an ulcer, and therefore should give a history of ulcer as well as of cancer, but at operation it is seen that the ulcer and the cancer are independent. This being true, how can a clinical history determine the frequency of the grafting of cancer on simple ulcers? Of course, such grafting takes place sometimes, but can we, by cold deduction, establish a 71 per cent?

Further, many American surgeons, such as Murphy, Ochsner, Deaver and Finney, tell us that duodenal ulcer is more common than gastric ulcer, and that duodenal ulcer occurs almost always in the first part of the duodenum. Ulcer of the second part of the duodenum is rare. What about carcinoma of the duodenum? Carcinoma of the duodenum is a very rare disease, and when it is met

with it is found, not in the first, but in the second part of the duodenum. The duodenum consists of the same anatomical construction as the stomach, has its four coats just as the stomach. If cancerous degeneration occurs in 71 per cent of all gastric ulcers, why don't we find carcinomatous degeneration in ulcers in the first part of the duodenum—a tissue anatomically similar? Why is it, when carcinomatous degeneration in the duodenum does occur, it is found in the second part, where duodenal ulcers are exceedingly rare?

And further, if carcinoma develops frequently in gastric ulcer, then it often happens that gastro-jejunostomy operations are performed on patients who have simple ulcers, but which are already carcinomatous. Consequently a goodly number of such patients should die subsequently from malignant disease. Is this the case? Gressot followed up a large number of cases and found that, after gastro-jejunostomy for simple ulcer, less than 3 per cent died of cancer. Kocher followed his patients back for fifteen years, and found not one died of carcinoma. Patterson, in a center where gastric cancer is common, reports only two cases of death following gastro-jejunostomy for simple ulcer. In both these cases postmortem was obtained, and he found that the carcinoma began quite a distance from the original ulcer for which the operation was performed.

When one faces reliable statistics such as these, and considers the anatomical, histological and pathological structures involved, is it a wonder that gastric ulcer becomes a puzzle?

#### DISCUSSION OF THE PAPER OF DR. LYNN.

Dr. John A. Witherspoon, Nashville: The question of gastric ulcer is of great interest to everybody because of its frequency and because of the difficulties mentioned by Dr. Lynn in his paper. However, while I believe in the correctness of Dr. Lynn's statement, yet there are cases in which we are bringing about a lot of difficulties that do not exist in all cases by any means. While it is perfectly true, as he stated in his paper, that it is impossible to take the definite outlines given by textbook descriptions of gastric ulcer and depend upon them in all cases, and that in fact you cannot depend upon any of them, I do not agree with Dr. Lynn that we cannot diagnose

gastric ulcer. There are cases in which we cannot diagnose gastric ulcer; that is no doubt of that, and there are cases that present entirely different pictures from what we expect.

There are cases of appendicitis that simulate ulcer; there are cases of gallstones that simulate ulcer, but these are in the minority. If you study your cases well, and if you pay a great deal of attention to the history, along with other things, you can make a diagnosis. If you follow the histories of these cases of gastric ulcer, you will find that sometime in the spring the patient has had a distinct attack of gastric trouble, running on possibly for a few weeks or a few months, and then he got better. In the fall he has another attack, associated with more or less definite symptoms of pain, symptoms of the evidence of chronic gastritis, and we call it indigestion for want of a better term. That patient goes and comes every year, and especially in the spring, about the first of March and the first of May, there is a marked tendency to exacerbations of this gastric trouble. It may start definitely as a gastritis. I did not understand, but I believe the writer stated that the condition is infectious. I think if you will study the mouths of these patients you will find a lot of abscesses at the roots of teeth, and infected tonsils. Many of them follow these focal lesions. Some of them may be embolic. When you get a definite picture repeating itself year after year of gastric symptoms, pain coming on from half an hour to an hour and a half after eating, pain of a dull or burning character, with the evidences of hyperchlorhydria, with excessive acidity, the pain frequently reflected in the left shoulder blade, not infrequently about the tenth rib, that is relieved by vomiting, by taking soda, then you have got a working basis. If that repeats itself, you find in the gastric contents not only hyperchlorhydria but free blood—microscopic blood. In addition to that you find an exquisitely tender point usually about an inch below the tip of the ensiform cartilage and about half an inch to the right of the median line. This exquisitely tender point I mention because most of these ulcers are on the posterior wall of the lesser curvature. If you take an x-ray picture you may find that the duodenum is not involved, but you get incisura. You have the evidence which the x-ray affords, with a marked increase in peristalsis, and you are getting along the right road towards a diagnosis. I am one of those who believe that gastric ulcer in the great majority of cases can be diagnosed. You must take into consideration all the factors; you cannot expect to make an accurate diagnosis from one symptom alone, but from the correlation of symptoms.

If anything has been demonstrated clearly, it is that cancer develops in a rather alkaline acid medium rather than in an acid one. Nobody

knows why. You take an ulcer, you neutralize the acid just as you get a duodenal ulcer three and a quarter or four hours afterwards the pain is reflected differently. The tender spot is different. Cancer does not occur in duodenal ulcer. It occurs within an inch or an inch and a half of the anterior wall of the duodenum after you leave the pylorus. That is usually a more exquisitely tender ulcer than a gastric ulcer, but if you get pain associated with a tender spot where I tell you and the vomiting associated with characteristic findings, hyperchlorhydria or mucus associated with blood, frequently I believe you will find microscopic blood in most of the gastric ulcers if you look for it. If you follow it up you will find it, and then taking the history into consideration, there is no question but that 75 or even 80 per cent of the cases of gastric ulcer can be diagnosed.

Dr. Lynn (closing): I did not desire to convey the idea that gastric ulcer could not be diagnosed, but it was principally the puzzle of gastric ulcer that caused me to read this paper. I believe gastric ulcer can be diagnosed, but when one gets down to the diagnosis of obscure cases and tries to differentiate between it and other intraabdominal lesions, I think the puzzle gets deeper and deeper and leads one far afield in his diagnostic efforts.

### HEMORRHOIDS, WITH SPECIAL REFERENCE TO TREATMENT\*

By I. G. Duncan, M. D.,  
Memphis.

Hemorrhoids are swellings or tumors due to pathological changes in the veins, mucous membrane, mucocutaneous tissue in and around the rectum and anus.

Some of the most frequent causes of piles are as follows: Upright position of man, heart disease, enlargement of the liver, abdominal tumors (such as pregnancy), cystitis and straining at stool, either due to constipation or diarrhoea. It is always very important to determine, if possible, the cause of hemorrhoids before beginning treatment, and if the piles are treated, either palliatively or radically, they will tend to return unless the cause be removed.

The principal symptoms of hemorrhoids are: First, pain; second, bleeding; third, prolapse. The pain is usually of the dull, aching

variety, and is sharp only when due to an acute thrombotic hemorrhoid. The patient usually complains of a dull, aching, bearing-down pain in his rectum, which is at times associated with soreness in the lower part of his abdomen, backache and vesical symptoms. The pain is usually very much worse during and for about an hour following defaecation. The bleeding usually takes place only while at stool, and varies from a few drops to several ounces. In severe cases the constant loss of blood produces a profound anemia, which can only be cured by relief from the piles. In these cases beginning cancer should always be borne in mind.

Prolapse of internal piles, as a rule, is very slight at first, and is produced by straining at stool. However, as time goes on, they become more prone to prolapse, and finally it becomes impossible to replace them. In severe cases gangrene with infection may take place, and death from abscess of the liver or general pyemia may ensue.

The main reason for failing to diagnose hemorrhoids is either the lack or improper examination of the anus and rectum. The average doctor either does not attempt an examination or puts the patient upon the table and tries to insert a renal speculum, thus causing a great deal of pain, and as a rule, the patient objects so strenuously that the procedure is stopped at once without gain in knowledge to the physician.

For examination, the patient should be put either in the Sims or the knee-chest position. The first step is to carefully inspect the rectum; the second is to examine the anus with the gloved finger, well lubricated. If the patient is instructed to bear down as if to force the finger from the rectum, very little difficulty will be experienced. It must be remembered that the mucous membrane of some hemorrhoids is so smooth that the pile cannot be felt. The third step is the examination of the anus and rectum with an anorectoscope. The knee-chest position is the best for this purpose. If the patient will bear down in the same way as he is instructed to do when the digital examination is being made, the proctoscope or anoscope will pass in with no pain, and very little trouble. The act of bearing down also causes the hemor-

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rhoids to prolapse into the proctoscope, and can be detected without difficulty.

Before treatment is begun, the predisposing cause, as mentioned above, should be sought and corrected, if possible, and if this is not done, even though the condition be cured, which is very difficult, a return will most probably take place. The treatment is palliative or radical. The palliative treatment is to be recommended only in very early and mild cases. It consists in keeping the bowels soft with various laxatives, and the application to the rectum and anus of various salves and ointments, either by means of the finger, pile tubes or suppositories. Some of the most often used drugs are ichthyol, carbolic acid, tannic acid, belladonna ointment, adrenalin, zinc ointment, opium and iodoform. The radical treatment may be carried out with either local or general anesthetic, but with the exception of the acute thrombotic piles, I prefer a general anesthetic when possible.

The method of dealing with acute thrombotic piles is as follows: The patient lies upon his back upon the table, with his feet in the stirrups; the parts are cleansed in the usual way; the pile infiltrated at its base with a solution of novocain. After waiting a few minutes the pile is incised, the clot turned out, and the resulting wound closed with a fine suture of chromic catgut No. 0. The relief to the patient from this little operation is usually immediate.

There have been numerous operations devised for the radical cure of piles, some of which, such as the old method of injection with carbolic acid, the clamp and cautery, or the ligating of the pile in mass, are only to be mentioned to be condemned.

I will now give you the preparation of the patient, the technique, and the after treatment of the operation, which I have always found very satisfactory.

The day before the operation, the patient is given a dose of castor oil or other laxative, and is instructed to take nothing but liquids. The parts are shaven and cleansed in the usual way, and three hours before operation the patient is given a high enema, which thoroughly cleanses the lower bowels. One-half to an hour afterward he is given one quart

of a two per cent solution of sodium bicarbonate by the Murphy (rapid) drip method. One hour before going to the operating room, he receives a hypodermic of either morphine or atropine, or an H. M. C. No. 1. After the patient has been anesthetized by either ether, gas or oxygen, the latter being preferred, the parts are once more scrubbed, the sphincter is next thoroughly dilated by first inserting one and then the other thumb, no dilator or speculum being used. It usually takes from three to five minutes to get complete paralysis of the muscles.

The anus and rectum is then irrigated with a lysol solution and the parts sponged dry. Next the largest pile is grasped with a hemostat at its apex and a circular incision is made entirely around the pile near the apex, through the skin and mucous membrane. Then, with a piece of gauze on the finger or the knife handle, the skin and membrane is stripped down to the base of the pile, forming a cuff. When the base has been reached, the hemorrhoid is transfixed with sharp-pointed forceps or ligature carrier, and a chromic catgut No. 1 ligature is caught in the point of the hemostat and pulled through. Next the base of the pile is crushed, and the ligature is tied both ways; the pile is then cut away, thus making it impossible for the tie to slip or the vessels to bleed.

In making the circular incision upon the mucous membrane of the pile, a little care is necessary, or the underlying blood vessels which are very near the surface may be cut, and bleeding ensue. However, if this should occur, it is very easy to put on a hemostat and proceed, for the ligature at the base of the pile should include all vessels. It may also be necessary to divide a few connective tissue bands during the process of dissection.

After the ligature has been put on, and the pile cut away, the cuff which was dissected from around the pile is brought over the stump, and the edges sutured together with a chromic catgut No. 0, threaded in a fine curved needle. By this procedure all of the raw surface is covered. This shortens very materially the time of healing, and in most cases the wound heals by first intention instead of by granulation. It also leaves the entire rectum covered by mucous membrane,

and makes formation of strictures impossible. The other piles are treated after the same manner.

The after treatment consists in keeping the patient in bed from four to five days. He should have morphine in sufficient amount to keep him comfortable. He should have only liquids until after his bowels are allowed to move, which is usually about the fifth day. It is often necessary to catheterize these patients, following which the patient's bladder should be irrigated with a solution of boric acid, and after, an ounce of a ten per cent solution of argyrol should be left in the bladder to prevent infection. Urotropin by mouth should also be given.

Usually about the fourth night after operation, I have the patient given two ounces of mineral oil, which is followed by a laxative in the morning. About an hour after the laxative is given, he receives an oil enema, thus insuring a painless bowel movement. After his bowels have moved thoroughly, the patient is allowed to get out of bed, but is required to sit upon a rubber cushion or pillow. He receives nightly doses of mineral oil for some time, keeping his stools soft and bowels regular.

The patients are very often anemic and should receive iron in some form. They usually receive a prescription consist of balsam Peru, belladonna, carbolic acid, morphine and zinc ointment, which they are instructed to apply to the rectum after each defecation, having first cleansed the parts with lysol solution. Usually in ten days or two weeks, the patient is entirely well, and able to go to work.

In closing, I wish to call your attention to what I consider the chief advantages of this operative procedure:

First. Sodium bicarbonate solution given before operation prevents or greatly reduces the nausea following the anesthetic.

Second. Very little blood is lost during the operation, and hemorrhage following is practically impossible.

Third. The suturing of the tissue leaves no raw surfaces to granulate, and thereby the time of recovery is greatly shortened, and the danger of stricture obviated.

Fourth. The pain which follows the opera-

tion is very slight, as the mucous-eutaneous nerves are not pinched in the ligatures around the piles.

#### DISCUSSION ON THE PAPER OF DR. DUNCAN.

Dr. John L. Jelks, Memphis: Let us get a little pathology into our surgical work with reference to the rectum and hemorrhoids. First of all, a pile is either an angioma or a phlebitis with plastic exudate either organized or not. If you have the former variety you have a pile into which there is an active arterial supply. That pile must be ligated, that is, the blood vessel must be ligated, so that you would give up, as the doctor described, the old Matthews operation of forty years ago. If you save enough skin and mucous membrane you will not have stenosis, you ligate the apex of the pile, cut it off, and that is the end of it.

The doctor speaks of operating for piles as if all piles were alike, but how often do you find something like this (indicating by diagram on blackboard), and what are you going to do for it? You have got to get rid of your phlebitis, and it is not the piles, but the phlebitis that bothers the patient. You open the area and get the veins out and sew the mucosa to the skin. That is all there is to it. If you have an internal or an external pile, what are you going to do there? In my service at the Memphis General Hospital I have tried to teach interns to cut off piles. These kind of piles will not bleed any more than other tissue. How often have you had a fistulous tract that went through the pile and you cut it out, and how many blood vessels did you tie. Have you ever thought of that. I have removed the entire rectum without having to tie a single vessel. In other words, I have done proctectomy without tying a blood vessel. Does it not seem reasonable, gentlemen. It is so. If you have here (indicating) a mucous pile, you have got venous blood and possibly you have a blood vessel coming down through, and I instruct my interns to cut the piles off, to ligate the blood vessels, apply a simple dressing, and that is the end of the pile.

Dr. W. N. Lynn, Knoxville: I wish to take issue with Dr. Duncan with reference to his method of preparation of the patient. He follows the old-time method of purging before operation, which is obsolete now in all operations either on the anus or in the abdomen. If the story of the alkaline reserve in the blood is true, it is a wrong thing to starve a patient or purge him before operation. In my judgment enemas are good. The patient should have enough food so that there will not be acidosis following. He gave sodium bicarbonate enema, one and a half or two hours before operation and expected that to control the nausea. It is more psychic than any-

thing else. If he wants sodium bicarbonate to do good, to raise the alkaline reserve in the blood and lessen the possibility of acidosis, he should give it for forty-eight hours in large doses, every three hours.

It seems to me that a hemorrhoidal operation should be looked upon as a dangerous operation so far as the patient is concerned. Hemorrhoidal veins have no valves, and the fact that the operation is done in a field in which there is great infection at all times leads naturally to the anatomical suggestion at least that a postoperative infection, both systemic and local, must be considered of first importance in all operations upon the anus. It is true that most patients who undergo operations for hemorrhoids get along without trouble, but sometimes there is systemic infection which may not be of a character to show immediate trouble, but later on there is morbidity in these cases, a fact which is overlooked at the time of the operation. Tying the vessels is good.

After operation he limits the diet of the patient to the most acidosis form of diet he could have, collecting gases in the intestine and raising the acidosis factor all the way through. Instead of giving a well balanced protein and carbohydrate and fat diet and lowering his acidosis factor, he brings up that factor.

In his operation upon the anus, after he has finished, if he will take the sharp point of his knife and make puncture wounds all around the anus he will be able to draw off the superfluous blood and get good drainage of the peri-anal region, obviating stasis of blood and enhancing recovery.

Dr. Duncan (closing): I wish to thank the gentlemen for their discussion of my paper. I am glad Dr. Jelks went into the pathology, because I did not have time to do so.

So far as cutting piles off and not tying them is concerned, I do not agree with Dr. Jelks at all. I like to sleep at night, and a lot of these vessels, where the sphincter is dilated and you do not notice any bleeding, may bleed, and you may be called at 12 o'clock at night to come and see the patient. It does not hurt to put a ligature around them, and I do it. So far as making an incision around and sewing it back, that is a general condition. It is all right. You can get the vein out and ligate it very readily. I always close the wound with chromic catgut.

So far as the preparation of the patient is concerned before operation, Dr. Lynn stated that the old method of purging is not in vogue any longer, especially for hemorrhoids. Where you work on the rectum and the man is going to be sore, I do not think it is a good idea to have a lot of hard feces to come out in a few days. You can give him a dose of oil to remove all undigested matter and hard fecal matter, and then as far as liquid goes, you can give milk and

eggs and beat them together, and you can use ice cream, gruels, and so on, in order to keep down the acidosis.

So far as the use of sodium bicarbonate is concerned, I will say that the proof in the pudding is in the eating. Once the doctor has tried it, he will be much surprised, and regret that he did not try it before. I do not believe in giving solid food that will cause a lot of residue so that the patient's rectum will be irritated. I have not had much trouble with gas afterwards.

## OSTEOMYELITIS COMPLICATING INFLUENZA.

By Jack Witherspoon, M. D.,  
Nashville.

I am reporting a case osteomyelitis of the cervical vertebrae as a result of influenza. This child first had influenza, then cellulitis of the neck, a general blood stream infection with involvement of joints, heart and kidney, and several cervical vertebrae.

### Vanderbilt University Hospital.

Name, Elizabeth Houser; address, Craggie Hope, Tenn.; division, medical; age, 13; nativity, Tennessee; address, city.

Referred by Dr. Jones.

Admitted Dec. 19, 1918; discharged -----, 19----; result, -----

Diagnosis: Primary disease, cellulitis of neck, involving both sides.

Visiting physician, Dr. Jack Witherspoon; house physician, Dr. McMillian.

**Family History.**—Father died five years ago of some cerebral disease. Mother died about four years ago, cause thought to be tuberculosis. One sister and four brothers living and well. Two sisters dead, cause unknown. Mother thought to have had tuberculosis and father had some form of insanity.

**Previous History.**—The patient is a schoolgirl. drinks some tea, but no coffee. Had measles. Has never had mumps or whooping-cough. Has never had typhoid, pneumonia or malaria.

**Present Illness.**—About three weeks ago the patient was taken sick and went to bed complaining of a general aching over her entire body. She began coughing some but had never spit up any blood. She stayed in bed for about two weeks and then got up and her neck and back began to hurt her a great deal. Her neck hurt when she attempted to turn her head. Her neck began swelling at about the same time, but has not swollen to any great extent since that time. She complains of her shoulders being very sore also. She has suffered very little from her head, her



head hurting her only when she would cough. Last night she vomited a little, but this being the first time since she has been sick.

Blood count, 31,000 whites. Urine showed trace of albumen. Because of the blood count and rigidity of the neck, and though there was no Kernig, we did a spinal puncture and gave her 15 c. c. serum. The fluid was negative to smear and culture. Next day her head was fixed forward, swelling was marked under her hair and at the back of her head. Ears showed no discharge and there were no symptoms or findings pointing to the mastoids.

On the 21st, two days later, her blood count was 22,400. Temperature 102.4, and the swelling increased. We had changed our diagnosis to cellulitis and on the 23rd Dr. Edwards operated.

#### Surgical Record.

Physical examination (general appearance, heart, arteries, pulse, lungs, abdomen, lymph nodes, reflexes and special features).—A well-rounded white girl with stiff and slightly swollen neck. There is a marked tenderness and rigidity of neck muscles.

Pre-operative diagnosis: Cellulitis of neck.

Surgical procedure: Date, Dec. 23, 1919; surgeon, Dr. Edwards; assistant, Friberg; anesthetist, Jones.

Anesthetic, ether; duration of anesthesia, one hour; duration of operation, 40 minutes.

Operative Technic.—An incision was made on each side of neck, posterior surface, midway between midline and mastoid. The tissues were

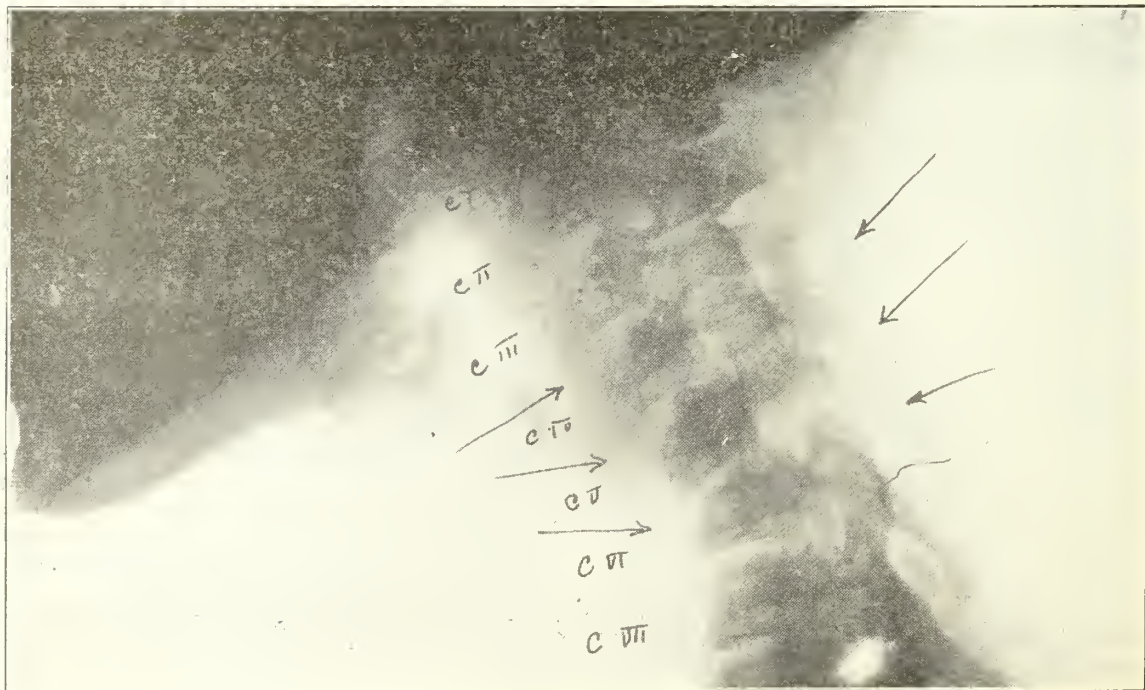


retracted and with a groove director and later, forceps, pus was not found except a little in right side. The tissues were very edematous. Drains were inserted and the wound closed.

Operative Findings.—Cellulitis and edema.

Postoperative Diagnosis.—Cellulitis.

Postoperative Record.—The drainage started two days after the operation and continued for quite a while, nearly three weeks. The wounds were practically closed when she left the hospital.



The left knee became involved, which became better after a Buck's extension was placed on.

At first there was very little drainage, but in a few days drainage was free.

Culture was reported streptococcus. Drainage continued free for two weeks, when she had a chill. Temperature and pulse ran up and she showed a swelling and stiffness and redness of left knee, with evidence of acute endocarditis.

Blood culture was done and streptococcus recovered.

This subsided and afterwards the opposite ankle became involved. She recovered and was dismissed from the hospital January 24, after five and a half weeks.

The drainage persisted both sides, and swelling occurred on the right.

About April 25 she came into the office with a piece of bone in one of the wounds. This was removed and found to be a spinous process of a vertebrae. It was three-fourths inch long and one-fourth inch wide. At St. Thomas Hospital the x-raying was done, here exhibited. The swelling on this subsided, and the sinus closed, but the other went through the same process and a piece of bone about the size and shape of a thumbnail was expelled three weeks later. Now she seems well of her infection, leaving a fixed twist to her neck, and she holds her head much like one with wry-neck.

The x-ray plates show involvement of at least three cervical vertebrae and destruction, almost complete, of one.

She is now receiving treatment by Dr. A. G. Nichol, with the hope of getting better position of the head.

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#### **PITFALLS IN DETERMINING PROPHYLACTIC OR CURATIVE VALUE OF BACTERIAL VACCINES, WITH SPECIAL REFERENCE TO INFLUENZA.**

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By G. W. McCoy,

Director Hygienic Laboratory, United States Public Health Service.

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During the prevalence of the epidemic of influenza and pneumonia from which the country is just emerging, the writer had an opportunity to examine data on the value of certain bacterial vaccines designed for prophylactic or curative use against the infection.

The inadequacy of the evidence adduced to support the claims of certain preparations has been very striking. This paper is presented in order that the kinds of data on which

conclusions may properly be based may be generally understood.

Perhaps the commonest source of error is that due to the employment of vaccine in an institution, or in a group not in an institution, after cases of the disease have appeared. Influenza develops among the persons in a given group, prophylactic vaccinations are undertaken more or less promptly, and no cases may occur after the inoculations have been completed. The results appear most impressive when the number of cases among vaccinated and unvaccinated is presented; but when closer examination reveals the fact that so large a proportion of the personnel involved has developed the disease before the vaccinations were done, that in all probability the remainder would not sicken, whether vaccinated or not, the figures lose their significance. An example will, perhaps, make this clearer. It was reported that among a large group of hospital attendants, approximately one-third had been vaccinated, and all had remained free from the disease, while the remaining two-thirds of the persons had not been vaccinated, all of whom had developed influenza. This appeared to be a very striking example of the prophylactic value of the vaccine, but when the fact was brought out that the vaccinations were only begun after practically all of the two-thirds mentioned had become ill, the significance attributed to these figures was nullified, while the conviction remained that only the naturally immune had been vaccinated, it being unusual for more than two-thirds of the personnel in any group to develop influenza.

Somewhat similar were the data presented to support a claim for the efficiency of a vaccine which had been used in a large group of persons in a civil community. It was shown that but 2 per cent of those who had been vaccinated developed the disease; while in the community at large the incidence had been about 5 per cent. The figures looked significant until it was learned that the vaccinations had not been completed until the community had suffered from the epidemic for several weeks, and that about half of the 5 per cent of cases had occurred before the vaccinations were completed. Omitting these,



there remained so few cases in the large unvaccinated group as compared with those that had occurred among the vaccinated, that the difference was not striking enough to be regarded as satisfactory evidence.

A second source of error occurs in vaccinating all persons in a group, large or small, and interpreting failure of the disease to appear or to spread as evidence of protection. One has but to study the data with regard to certain institutions where, without vaccinations, the disease has been excluded or has spread but slightly, to realize how fallacious are such arguments. Thus the writer is acquainted with a large group where vaccinations have been done and where a rigid quarantine has been in force, which has remained free from the disease; and he is acquainted with a number of institutions where the same result has been obtained by quarantine alone.

The third, and perhaps commonest, pitfall is the drawing of conclusions from too meager data. Thus one observer assured me that he had been exposed to influenza patients many times and had taken no precautions beyond being vaccinated, and he had not developed the disease. Evidence of this sort should be given no consideration, as many of us, the majority, indeed, have escaped the disease without having taken any particular means to prevent it.

We hear of numerous examples of the cure of cases by means of vaccine. I have heard related the most astonishing examples of apparent great benefit from vaccines in the pneumonia that follows influenza. When the records were scrutinized, however, it was found that these remarkable cases could be duplicated by others that had done equally well without vaccine.

In the only examples with which I am familiar in which a vaccine was used on alternate cases, no better results were secured in the vaccinated than in the control group.

The writer suspects that those who have used vaccines most commonly have been more facile in making the diagnosis of a complicating pneumonia than have others. The author has examined numerous clinical records submitted to support the value of vaccines in pneumonia, and many of the cases, judged by the evidence presented, most certainly would

not ordinarily have been regarded as pneumonia. Physical signs were equivocal or could probably be attributed to bronchial involvement when there was no definite acceleration of respiration, and the general trend of the record did not support the view that the patient had pneumonia. In a certain large hospital, on one service, about 60 per cent of the cases admitted were diagnosed pneumonia, and all were treated with vaccine, with a mortality of about 10 per cent, while in the same institution, on another service, about 15 per cent of cases were diagnosed pneumonia and the mortality was 40 per cent. In this instance, the actual number of deaths was approximately the same, but vaccine-treated cases showed a much lower case-mortality in the pneumonias. I am by no means sure that the higher percentage of pneumonias diagnosed may not have been more nearly accurate than the lower, but it should not be made the basis of misleading deductions.

The only way in which we are to secure promptly acceptable evidence of the value of a bacterial vaccine is by the vaccination of only a portion of the individuals in a large group, holding the remainder as controls; age, sex, and conditions of exposure being the same in the two groups.

On the other hand, a vaccine should not be condemned unless controlled as just indicated, and unless it has failed to show protective value when sufficient time has elapsed after the inoculation to make it reasonably likely that any immunity which may develop will have had an opportunity to do so.

A large number of vaccines have been used, some made from the influenza bacillus alone, others from this in conjunction with pneumococci, staphylococci, and streptococci, and in various combinations; the failure of one does not necessarily mean the uselessness of others. —From U. S. Public Health Reports, May 30, 1919.

### A DOCTOR'S DILEMMA; OR A CASE OF MISTAKEN IDENTITY.

A Serio-Comic Near-Tragedy, in Three Acts.

This story is the gossip of the month. Last month the Journal carried an effusion from Paris, Tenn., which, it is believed, helped the



author of said epistle a great deal. He broke into print and at the same time he got it out of his system. Cannot Memphis, Chattanooga or Knoxville, to say nothing of the smaller cities of the State, give us real heart-interest stories? Have they not doctors who are like the man on a motoreycle—always in a hurry—and nothing to do when he gets there? An accurate account of some of \_\_\_\_\_'s fisticuff encounters might prove more interesting and amusing as a "close-up" by a professional confrere than a mere newspaper account by a cub reporter.

But this is \_\_\_\_\_'s time, so "on with the dance." A practicing physician of \_\_\_\_\_, and member of the Tennessee State Medical Association, a member of a family whose name has been connected with all that was good in medicine and surgery, and known throughout the State, came into some undesirable notoriety in regard to the prescribing of "dope." His name, together with others, was brought to the attention of his local medical society by the chief of police. The particular doctor to whom we refer above wrote a letter to the society stating in effect that he would not prescribe narcotics for habitues further if the society would not expel him for the offenses under consideration, to which the society, in all its charity and forgiveness, readily acquiesced. But the penitent pill pusher apparently didn't mean what he said, or rather did mean what he said literally, but made mental reservations to the effect that he was simply going to change his system. Now the doctor does a great many life insurance examinations, so into the doctor's office walked a wise and frugal man intent upon laying up mundane riches for his dependents while he was enjoying riches up above where moth nor rust corrode—or words to that effect. The doctor gave him the once over, repaired to his inner chamber and prepared a "hypo" containing two and one-half grains of morphine, 'tis said. Upon returning he asked the applicant for life insurance to roll up his sleeve, whereupon he gave said applicant the "shot." As the doctor withdrew the needle and prepared to collect his two and one-half bones the man asked him what he was doing. When the L. I. A. told him that he

wanted to be examined for life insurance and that he was no "dope fiend" there was much business of calling an ambulance, the administration of the usual antidotes, and finally a life was saved! It is understood that the Department of Internal Revenue has the facts of this case and the story may be heard from the man on the street.

Moral: Be sure you know them before you give them what you think they came for.

### AN APPEAL FOR HUMAN EMBRYOLOGICAL MATERIAL.

In 1906 I observed certain malformations of the human shoulder-blade, and in contributions to current literature I have given them the collective name, "the scaphoid type of scapula," and pointed out some of its hereditary, clinical and anatomical significance.

Probably the most important observation connected with this type of scapula in man is its age incidence—that is to say, it occurs with great frequency among the young and with relative infrequency among the old. There appear to be two possible explanations of this fact—either

(a) One form of shoulder-blade changes into the other during development and growth; or

(b) Many of the possessors of the scaphoid type of scapula are the poorly adaptable, the peculiarly vulnerable, the unduly disease susceptible—the inherently weakened of the race.

I have attempted to answer these questions by seeking evidence in various directions, and one of the most important of these has been a study of intruterine development of shoulder-blades. My investigations in this direction have been limited by the material at my disposal, which has been inadequate for a definite solution of this phase of the problem. I am, therefore, appealing to physicians for fetuses in any and all stages of human development.

It is desired that the material (as soon as possible after delivery, be immersed in 10 per cent formalin in a sealed container, and be forwarded to my address, charges collect. Due acknowledgement will be made to those forwarding material.—William W. Graves, St. Louis, 727 Metropolitan Bldg.

**THE JOURNAL**

OF THE

**TENNESSEE STATE MEDICAL ASSOCIATION**

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

OCTOBER, 1919

**EDITORIALS****"WHY IS IT SO?" IS IT SO?**

About your statement that young physicians are loath to enter general practice, I cannot express an opinion, but surely you have misjudged the situation in internal medicine. As I see it, the outlook in the United States has never been so hopeful. Take two or three indications. Compare the numbers in attendance at the surgical and medical sections of the A. M. A. for the past ten years. I have not the figures as I write, but you will find that there has been a steady increase in the medical section, numbers of which now exceed those in the surgical section. The surgeons have had their day—and they know it! The American St. Cosmas and St. Damien—the Mayo Brothers—have made their clinic today as important in medicine as it ever was in surgery. Wise men! They saw how the pendulum was swinging. And lastly, the schools are everywhere organizing up-to-date medical clinics, which are attracting the pick of the younger men, who are keen to realize that the future is, as indeed it ever has been, with medicine. In wagging the medical dog the surgical tail has been an immense stimulus, and if in many places only the tail is visible, where does the fault lie? In not organizing in every hospital of one hundred beds a good medical clinic for ONE man with paid assistants and a good clinical laboratory. Let the smaller institutions begin to spend as much on the medical as on the surgical clinic, and give the young physicians a chance.

May I finish with a medico-chirurgical story from the life of George Mareschal, who fought such a good fight for French surgery in the early part of the eighteenth century?

Mareschal cut Fagin, the chief physician to Louis XIV, for stone. At that time the surgeons and physicians were sworn foes. After the operation, when Mareschal would give to his patient some counsel as to diet, the bitter old man repulsed the surgeon with the remark, "I have had need of your hands, but, thank God, sir, I have no need of your head to order my way of life!"

Times have changed—and are changing!

Yours, WILLIAM OSLER.

13 Norham Gardens, Oxford.

**FROM SIR WILLIAM OSLER.**

In the August number of the Journal there appeared, on an editorial page, an appreciation of the man whose name appears at the head of this writing, and whose leadership in the profession of medicine has been long universally acknowledged and followed throughout several great nations. The editor has received a very gracious note from Sir William—just such a note as one would expect to receive from him—expressing his thanks for the appreciation.

In the same Journal another editorial—"Why Is It So?"—caught Doctor Osler's eye, and he has honored us by sending what he is pleased to call a "mild criticism" of this editorial. This "criticism," signed by Dr. Osler, appears on this page. To our way of thinking, it is delightful and is a strong argument and appeal for the very thing we would plead for—namely, the establishment in ALL medical schools of strong teaching forces in medicine as well as in surgery, and for the re-establishment EVERYWHERE of a realization of the value of practical medicine and for the development of leaders in ALL of our schools and hospitals other than surgeons who can impress and inspire our young men.

**THIRD SURVEY OF HOSPITALS.**

The third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire the Association has collected a

mass of information on the subject. Much of this material has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing firsthand information by which the data collected by the Association is being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in position to furnish a satisfactory interne training. The investigation is not limited to intern hospitals, however, but will cover all institutions, and the data obtained will be useful in any future action which may be taken in classifying hospitals. The work in Tennessee is in charge of a committee of which Dr. W. S. Farmer, of Nashville, is chairman, and Dr. Robt. Caldwell, Nashville, Dr. E. T. Newell, Chattanooga, Dr. J. L. Crook, Jackson, and Dr. G. R. West, Chattanooga. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

### THE STATE BOARD OF HEALTH.

The regular semi-annual meeting of the Tennessee State Board of Health was held at Nashville on October 7. The report of the Secretary and Executive Officer showed marked progress in every division of the department, except the division of sanitary reports and communicable diseases. It appears that the efforts of the State Board of Health to secure reports of communicable diseases do not secure the co-operation of the physicians and that such morbidity statistics as are secured are so incomplete as to be of little real value.

The work of the Board of Health is carried on by the following divisions: Administration, Reports, Vital Statistics, Rural Sanitation, Laboratory, Sanitary Engineering, Venereal Diseases, Oral Hygiene.

A decrease in the numbers of deaths and births was noted for the months of May, June, July, August and September. It is believed that this is in large measure due to the great number of deaths caused by influ-

enza and pneumonia during the period from October 1, 1918, to April 30, 1919. A great many died during the epidemic who otherwise would have died from other causes during the months named above. Among these were a very large number of pregnant women, the births of whose children would normally have been registered during the months named. It is apparent, however, that birth registration is yet quite incomplete in many counties. Some physicians are still failing to comply with the law requiring them to register births. The uncontrolled midwife is the worst offender in this matter. Legislation for the control of midwives will be introduced in the next Legislature. Tennessee's vital statistics are of immense importance, and it is hoped that the medical profession in the state will give its absolute co-operation in the earnest effort that the State Board of Health is making to perfect death and birth registration. A list of local registrars in the individual counties is being "run" in the *Journal*, the names and addresses of these registrars in a group of counties appearing each month.

The work of the Division of Rural Sanitation, as presented in the report made to the Board, is growing in extent and in results accomplished. Four units are now in the field, conducting intensive health campaigns in as many counties. The sum of \$6,000 was appropriated by individual counties for the use of this division at the July terms of the county courts. The people in rural communities in which the work of this bureau is being done are responding and co-operating to a far greater extent than ever before. For instance, in one group of 115 homes surveyed 114 sanitary privies were built. Nearly 10,000 anti-typhoid vaccinations were done by this bureau during the last five months.

One of the most important developments in public health for many years is the establishment of a division of sanitary engineering of the State Board of Health. Capt. C. N. Harub, Associate Sanitary Engineer of the U. S. Public Health Service, is in charge of this new division. Up to this time 14 public water supplies have been surveyed by the Sanitary Engineer, and of the entire number only two of these were found at all satisfac-



tory. In none of the towns where surveys were made were sewerage facilities found adequate. The State Board of Health adopted, at its October meeting, rules and by-laws for the control of public water supplies and sewerage systems, which will be put into force at the earliest possible date. The survey of the various towns of the state will be pushed as rapidly as can be done, and a determined effort will be made to see that the people who must pay for water are provided with safe water.

The venereal disease control work of the State Board of Health has been organized and reports are beginning to come in in numbers sufficient to indicate that the profession of the state will eventually give their cordial co-operation to the movement so lately begun for the suppression of venereal diseases. Clinics have been established or provided for in the largest cities and much has already been accomplished toward finding and treating infectious cases. A great interest has been exhibited in the work of venereal disease control by many of the large manufacturers of the state.

The service of the laboratory of the State Board of Health is being rapidly developed and extended. Each month shows an increase in the number of specimens examined and it is evident that the plan of sending containers to physicians directly is producing results. Among other things worthy of especial note in the report of the activities of the laboratory is the fact that 38,870 doses of typhoid vaccine were prepared and distributed by the laboratory to the field units of the Board and to state institutions. Arrangements are soon to be perfected which will enable the Board to handle laboratory examinations for the western division of the state in a more prompt and satisfactory manner than is now possible. This will be through the establishment of a branch laboratory at the medical school of the University of Tennessee in Memphis about November 1, 1919.

The above very imperfect review of some of the activities of the State Board of Health does not at all represent anything like the full facts concerning the every-day work of our State Board of Health. The department is on "rising ground" and is

being conducted with only one purpose in view—namely, to render helpful service to Tennessee's people. It is the particular wish of the department to give all the help it can to the physicians of the state, and, in turn, to receive all the powerful assistance that they can give to strengthen and develop its work.

### **SOUTHERN MEDICAL ASSOCIATION.**

Thirteenth annual meeting, Asheville, N. C., "Land of the Sky," November 10-13, 1919.

Sept. 27, 1919.

Dr. Olin West, Editor, Nashville, Tenn. —

Dear Dr. West:

The above is a simple announcement of our approaching meeting. Here is a brief outline of the program:

Monday, November 10.—Section on Urology, Section on Pediatrics, National Malaria Committee (Conference on Malaria), Southern States Association of Railway Surgeons, Conference on Medical Education, Southern Gastro-Enterological Association, and at night a public meeting under the direction of the Section of Public Health.

Tuesday Forenoon.—The formal opening, with the addresses of welcome, address of the President, Dr. Llewellys F. Barker, the Oration on Medicine, Surgery and Public Health, etc.

Tuesday Afternoon, Wednesday and Thursday.—Section on Medicine, Section on Public Health, Section on Surgery and Section on Eye, Ear, Nose and Throat. Also on these days the American Child Hygiene Association (formerly the American Association for the Study and Prevention of Infant Mortality).

Tuesday Night.—A big general meeting early in the evening followed by a reception to the President at the famous Battery Park Hotel.

Wednesday Night.—Another general meeting.

A great program, delightful entertainment, beautiful scenery, balmy climate, fine hotels and plenty reduced rates on all railroads—everything just ideal for this meeting.

Any mention that you may make in your good journal regarding our approaching meeting will be appreciated. A bulletin with

further information will be sent you soon.

Very truly yours,  
C. P. LORANZ,  
Business Manager Southern Medical Association.

## THE CURATIVE TREATMENT OF MALARIA.

The following "memorandum" has been sent by the International Health Board to the members of the field staff of that Board. Malaria is a major problem in certain Tennessee counties and we are sure that our readers will be interested in the conclusions of the investigators whose studies are referred to. It is indeed high time that some effective curative treatment of malaria should be developed. The efficiency of preventive measures in limited areas has been abundantly proven.

The Tennessee State Board of Health, with the co-operation of the U. S. Public Health Service and the International Health Board, is now having malaria surveys made in several towns and hopes to make some demonstrations through intensive campaigns against malaria during next spring and summer.

No. 7437—Memorandum Giving a Resume of Studies in Malaria Treatment, Made by Dr. C. C. Bass and Lieut.-Col. J. W. Stephens.

For the benefit of the Board's field staff, the following resume has been prepared of two studies on the effective treatment of malaria—the one by Dr. C. C. Bass of Tulane University and the other by Lieut.-Col. J. W. Stephens and his associates at the Liverpool School of Tropical Medicine. Dr. Bass comments that his treatment had for its object the disinfection of patients to eliminate malaria carriers, or, in other words, the primary object was malaria control, whereas the Stephens treatment was carried out in hospitals for the cure of individual attacks among patients who had been invalidated home after failing to respond to the treatment given at hospitals near the fighting fronts.

### The Bass Study.

The outline of the Bass study of the treatment of 25,000 cases of malaria in Mississippi during the period from 1916 to 1918 appears in the Journal of the American Medical Association for April 26, 1919 (p. 1218). For routine treatments, Dr. Bass prefers the sulphate of quinine to its other more soluble salts, and the oral to the intravenous or intramuscular administration. He further believes that daily treatment with qui-

nine does "disinfect a considerably larger proportion of cases in a given length of time than intermittent treatment on one or two days of each week." In brief, he claims that 90 per cent of all malarial cases can be disinfected of their plasmodia by the oral administration to persons over 15 years of age of 10 grains of quinine sulphate three times daily (30 gr. daily) to curb the acute attack, and thereafter, usually beginning on the fourth or fifth day, by the administration of 10 grains daily at bedtime for eight weeks to "eliminate the infection." For children under 15 years of age the daily dosages are proportioned as follows:

Under 1 year	----- ½ grain daily.
1 year	----- 1 grain daily.
2 years	----- 2 grains daily.
3 to 4 years	----- 3 grains daily.
5 to 7 years	----- 4 grains daily.
8 to 10 years	----- 6 grains daily.
11 to 14 years	----- 8 grains daily.

### The Stephens Study.

The Stephens study is contained in twenty-one communications to the Annals of Tropical Medicine and Parasitology, printed between the dates of June 30, 1917, and February 28, 1919. The study was made on 1,346 malarial cases, infected chiefly with the simple tertian plasmodium, the infections having originated for the most part in Macedonia, Salonika, and Mesopotamia. Various drugs were given in various amounts, and various methods employed to determine the most effective means of controlling the acute attacks and preventing relapses. The drugs used fell into three categories: Useless, palliative, and curative.

**A.—Useless Drugs, which neither controlled the temperature paroxysms, nor swept the peripheral circulation clear of parasites.**

Tartar emetic, 15 to 67.5 cg.; administered intravenously.

Amylopsin and trypsin, 1 ampoule of each; administered intramuscularly.

Quinotoxin, 5 to 10 grains; administered by mouth.

Colossal manganese, 2 c. c.; administered intramuscularly.

Liquor arsenicalis, B. P., less than 30 minims; administered by mouth.

**B.—Palliative Drugs, which controlled the temperature and the parasites of the acute attack, but allowed relapses in two to three weeks.**

Novarsenobillon, .45 to .9 gram; administered intravenously.

Disodoluargol, .2 to .25 gram; administered intravenously.

Quinine alkaloid, sulphate or bihydrochloride, 30 grains (1.944 g.) or under; administered intravenously, intramuscularly or by mouth.

C.—Curative Drugs, which controlled the acute attacks, and prevented relapses with respect to temperatures or parasites for a period of 60 days after treatment.

1. Quinine sulphate, by mouth:

90 grains each day for two days, 60 % cures.\*

45 grains daily, 3 to 8 weeks, 64 % cures.

45 grains Saturday and Sunday each week for 8 weeks, 72 % cures.

2. Quinine bihydrochloride, 15 grains, intramuscularly, on two successive days, followed by liquor arsenicalis, B. P., 30 minims by mouth daily for eight weeks, omitting treatment during the entire third and sixth weeks.

Combined quinine-arsenic treatment yielded 87.8 % of cures.

The results achieved so far indicate that the combined quinine-arsenic treatment (based upon observation of 31 cases) is the most effective in producing what the commission denominate a "cure"—namely, the control of the acute attacks, and the prevention of either temperature or parasitic relapses within 60 days after treatment. Quinine alone, if administered by the interrupted method (quinine given every Saturday and Sunday of each week) in doses of 45 grains each and continued for at least eight weeks, may be expected to "cure" 72 per cent of all cases so treated. By the continuous method, administering 45 grains of quinine each day for an eight-week period, one can expect to find a poor toleration for the drug (66 per cent of cases must discontinue treatment prematurely), and to accomplish a "cure" in 64 per cent of the cases treated for the entire eight weeks.

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## INFLUENZA.

The suffering and loss of life that characterized the influenza epidemic of last year are still vivid in the minds of physicians and the public, and there is much speculation as to the extent to which influenza will appear during this fall and the coming winter, and what measures are of value in its prevention. In the anxiety to do everything possible to lessen the anticipated danger, it is important to maintain a judicial attitude in evaluating any proposed method of prophylaxis, and to inquire carefully into its merits before recommending it for general public use. If we may judge by the experience of the past in other epidemics of influenza, or, indeed, in

epidemics in general, a considerable incidence of influenza may be anticipated during the coming fall and winter. During the past spring and summer there have been scattering cases, for the most part mild, or at least not usually complicated by the fatal bronchopneumonia of last winter. While opinion as to the degree of immunity conferred by one attack of influenza is not unanimous, there are many facts that appear to support the view that one attack does confer immunity to the disease. If this view be accepted, it may be assumed that the epidemic of last year, which affected perhaps 30 per cent of the population, presumably conferred an immunity on a large proportion of the susceptible persons, and that therefore a recurrence of the epidemic of the same magnitude is very unlikely. On the other hand, no doubt there are a number of persons who escaped infection last year, but who through changes in resistance, or by accident of exposure, will suffer from the disease this year. It must not be forgotten that infections resembling and possibly identical with influenza, or *la grippe*, are with us practically always, especially in the winter, and there is a great temptation at such times to call any sickness that has not a definite entity "influenza." Conditions that are ordinarily called "colds" are now being given the more popular name, "influenza."

The practical value of vaccines in the prevention of influenza has been much debated. In one group are those who are enthusiastic over the alleged success of vaccines in the prevention of influenza, citing numbers of instances in which persons did not become ill from influenza following prophylactic injections, and in which those who did become ill suffered less severely than others not injected. In another group are those more conservative, who present carefully studied series of persons who had been vaccinated, with like numbers of unvaccinated controls, and point out that the incidence of the disease was practically the same in the vaccinated as with the unvaccinated persons. The conclusion seems unavoidable that the efficacy of vaccines in the prevention of influenza is still unproved. The virus of influenza is not as yet discovered, and thus further doubt is

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\*Similar series treated with similar dosage during winter months yielded only 6% cured, in contradistinction to 62% cured when treatment was given during summer months.



thrown on the probable value of vaccines whose action, if any, would be nonspecific so far as influenza itself is concerned.

How, then, shall we answer the many queries of patients as to whether they shall be injected with vaccines or what they shall do to avoid falling victims to the disease? Certainly they should not at present be led to believe that by submitting to vaccination they can hope to acquire immunity in any degree comparable to that resulting from antityphoid inoculation. Until the value of prophylactic vaccines is clearly proved, they should not be recommended to patients as a sure method for the prevention of influenza. The question as to the value of vaccines in the prevention of infectious diseases of the respiratory tract other than influenza is still under investigation. Other procedures, such as good ventilation, cleanliness and hygienic measures in general, are of value in that they contribute to good personal and home hygiene. But no one of them is all important to the exclusion of the others. There is no scientific evidence that gargles and sprays, no matter what drug may be used, are of value except as temporary cleansers. There is one point in regard to influenza, however, on which there is general agreement: The pulmonary complications of influenza, which make it so serious a disease, may be avoided to a large extent by rest in bed at the onset of the illness. Influenza itself is not usually fatal, and general insistence on the importance of rest and warmth at the onset of illness will accomplish more than all else in preventing complications and reducing fatalities from this disease.—*Jour. A. M. A.*, October 4, 1919. (

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### VENEREAL DISEASE CONTROL.

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To state, national, and international health authorities it appears that since venereal diseases are peculiar to the human; since they are chronic diseases; since they are communicable diseases spread by carriers and by contact, not necessarily sex contact; since they are prevalent in all classes of society and very prevalent in classes of low inhibition, it is obvious that they should be controlled.

Likewise, in order to control them, it is obvious that accurate knowledge of the whereabouts of infected persons is essential.

The only available means of ascertaining the whereabouts of infected persons is by morbidity reports of those persons with whom the infected come in contact. It is obvious also that a law becomes necessary to enforce the proper reporting. Hence the required law was provided by the Tennessee State Board of Health, and under its provisions the reporting is now under way.

However, it has been found that many questions have arisen in the minds of some of the physicians of the state as a result of the inauguration of the reporting of venereal diseases, and some physicians are not co-operating with the health authorities because their conscientious beliefs have not been met with reasonable and proper information.

Some of the questions and objections are too deep-seated to be overlooked, and this article, it is hoped, will anticipate adverse action on the part of those physicians who have not yet decided to co-operate voluntarily in the regular and systematic reporting of their cases.

Lack of space prohibits a thorough discussion of all of the questions involved, but justice has been attempted in an effort to answer the following, which have been found to constitute the largest percentage of conscientious objections:

1. That reporting may constitute a breach of professional ethic or a disturbance of confidential relations with patients.

Reporting will not, of necessity, involve publicity. The physician is required by law to keep his records confidential except to health officers on duty; and when the only opportunity for publicity occurs, as in the case of wilfully negligent or refractory patients, the responsibility of the physician ceases when the name and address are reported to the health officer. The individual privilege, as in the above-mentioned exceptional cases, is a secondary consideration to the public health and safety.

2. That reporting may drive more sufferers to quack treatment.

The experience in other states has proven

this an unwarranted belief. The proper administration of proposed laws and local ordinances will practically eliminate this objection. The elimination of quack physicians is apparently of insignificant importance in Tennessee. The prohibition of the sale of nostrums and counter-prescribing by druggists is fully covered by an ordinance approved by the State Board of Health, which should be passed by every municipality. Physicians and others will find that druggists will co-operate when they find physicians doing likewise, for their profits are increased by the sale, only on the original written prescription of a physician, of medicines for the prevention, treatment and cure of venereal diseases.

3. That reporting of tuberculosis has failed so far; therefore notification of syphilis, which is also a communicable disease, will be accompanied by the same difficulties and will fail also.

The reporting of tuberculosis has not failed. Its apparent failure in some localities lies not in the system, but in its incomplete administration. By the simple reporting of tubercular cases thousands of lives have been prolonged by co-operative agencies which place approved information before the infected persons. In venereal disease control work the physician gives the patients circulars of information and additional advice. Other instructive material is urged on them, from various sources.

4. That reporting may lead to domestic upheavals, unhappiness of lovers, and other personal miseries, as in cases of wives who have been innocently infected and are ignorant of their infection, and as in the prohibition of the marriage of venereals.

Even should a certain amount of personal misery result, it is a minor issue when compared to the benefits obtained. It is the experience in other states where the system is permanently established that patients appreciate the additional interest displayed by the physician. The interest which is stimulated in the patient serves to make the instruction more assimilable.

5. That administration of reporting will lead to unfair dealing with women sufferers.

The law applies equally to both sexes.

since it is estimated that fully 90 per cent of venereal infections in women are innocent, it would appear that the closer observation and instruction of females as well as males will be part payment of the obligation due womankind and will prevent many innocent infections.

4. That information will leak from the Health Department and lead to scandal.

Health officers are required by law to keep their records confidential except when infected persons become dangerous to the public health, and even then it is not expected that wide publicity be given the innocent and ignorant offender. The malicious should be exposed. The fear of the patient in this respect depends on his confidence in the physician.

7. That in consequence of possible leakage of information, opportunities for blackmail will result.

There is no case on record where blackmail has been attempted. The fact that the case is reported primarily by number and the name presumably made public only when the patient becomes a violator of the law, eliminates the procedure absolutely.

8. That since there is no apparent penalty for failure to report, the law may be disregarded.

This belief is entirely erroneous. A recent opinion of the Attorney-General cites that: "Any person who shall wilfully neglect or refuse to comply with the regulations of the State Board of Health shall be guilty of a misdemeanor and shall be fined not less than ten (\$10) dollars nor more than one hundred (\$100) dollars, or confined in the county jail not longer than three months, one or both in the discretion of the court; and upon complaint of any health authority it shall be the duty of the District Attorney to prosecute the violation of this Act."

It will be readily seen that this applies equally to patients, parents or guardians of minors, physicians, hospitals, clinics, druggists and health officers.

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**DR. M. C. McGANNON.**

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Just as this Journal is ready for the press the death of Dr. M. C. McGannon has been

announced. Dr. McGannon died very suddenly at his home in Nashville at 10:30 p. m., October 9, 1919, from organic heart disease. For more than twenty years he was a very prominent and successful surgeon in Nashville, and it is probably true that few surgeons in the South have ever done more work or more successful work than he. For all the years of his residence in Nashville Dr. McGannon was a teacher in one or the other of the medical schools in this city, holding a chair in surgery in Vanderbilt University at the time of his death. He was the founder of the Woman's Hospital, and the chief surgeon of this institution throughout its history.

### NOTES AND COMMENT

Dr. Homer Reese, of Gallatin, was married on October 1, 1919, to Miss Helen O'Reilly, of Chattanooga.

The meeting of the American Public Health Association in New Orleans, October 27 to 30, should be well attended by Tennessee health officers and physicians generally.

Dr. Jno. B. Steele, having received his discharge after more than two years' service in the Army Medical Corps, has re-entered private practice, with offices in the Volunteer State Life Building.

Dr. R. L. Baugh, of Jackson County, is the newly elected State Registrar of Vital Statistics for the State Board of Health. The Journal commends Dr. Baugh as a gentleman, altogether worthy, and bespeaks for him the cordial co-operation of the profession of the State in the important work he has in hand.

The Davidson County Tuberculosis Hospital has been greatly improved by the addition of sun parlors and other construction. An up-to-date x-ray outfit has been installed. A school has been opened for the children who are undergoing treatment in the institution. Under the superintendency of Dr. B. G. Tucker this hospital is being rapidly developed into a model institution.

Behold the trained nurse—the Red Cross nurse—if you will; that “Rose of No Man's Land,” as the popular song has it. It might be changed to “The Rose of No Man's But a Rich Man,” and then he has to have two if he is sick.

Some of the members of the St. Louis Medical Society have organized a section of that body called the Clinical Section of the St. Louis Medical Society, and have established a system of clinics to which members of our association are invited when they are in St. Louis. The advertisement appears in this issue under the heading, “Saint Louis Clinics.” There is a large amount of clinical material in St. Louis which has never been organized, but now should afford splendid opportunities for physicians who desire to take advantage of the arrangement.

Take the cover off of the first Burroughs adding machine you see and try this: A patient has typhoid fever and goes to a hospital. He takes a bed and it costs anywhere from \$15.00 to \$50.00 per week. He wants a private nurse, but he can only get one if it is agreed that she shall be on duty (we were about to say “work”) for twelve hours, so he has to get two nurses. These condescending angels (?) of mercy receive \$5.00 each per day, plus (no, not war tax) board of \$1.50 each. Now enters the doctor. One visit per day at \$3.00 per visit. After you have itemized and totaled one week's expense, stop and think. Doesn't it mean anything to you? Does it mean that the hospital is overcharging? Emphatically, no, under the present conditions of high cost of everything. Does it mean that the nurse is taking advantage of “supply and demand” and profiteering a little? Well, yes and no. A full-page, double-column editorial is going to be written on that point. Isn't the above state of affairs a sad commentary on the business sagacity of the doctor? Boy, page Mr. Rockefeller. We want to ask him if he will not endow chairs on the business of the practice of medicine in our medical schools.



## MISCELLANEOUS

### INFLUENZA WARNING!

Even though the recurrence of influenza this fall is still a matter of opinion, it behooves us all to be prepared in every way to crush the very first evidences of another epidemic. Thorough prophylactic measures should be put widely in force everywhere with the first case which appears. Only in this way can we prevent its rapid spread and consequent suffering.

Probably the greatest prophylactic measure developed during the last epidemic was Dakin's remarkable antiseptic, Dichloramine-T. Previous investigations by military medical men had demonstrated its power to prevent infectious diseases originating in the upper air passages, such as meningitis, diphtheria, etc., and had shown its ability to clean up diphtheria carriers.

Its use as a spray to the nose and throat to prevent influenza was therefore perfectly logical. Thousands of people, in some cases the entire working force of large industrial plants, receive sprays twice daily to nose and throat of a 2 per cent solution of Dichloramine-T in chloroform. Also they were instructed to use as a gargle chlorazene, Abbott, 0.25 per cent solution every two hours and before entering street cars or other public places.

The results were gratifying. Wherever these measures were carried out the incidence of influenza was unusually small. Further information on the uses of Dichloramine-T and chlorazene may be obtained upon request to the Abbott Laboratories, Chicago, Ill.

### PROPER STORAGE OF BIOLOGICALS.

One of the most important features in the sale and distribution of biological products is the proper storage of serums and vaccines between the time of final test and shipment to customers.

In addition to the large cold storage capacity at the Glenolden Laboratories for the preservation of biological stocks, ample provision has been made for the maintenance of a suitable temperature for biological products in

the new Mulford building, Philadelphia, which is being occupied as quickly as conditions will permit.

Two large rooms have been constructed for unfinished and finished stocks, with a capacity of 50,000 cubic feet, in which a minimum low temperature will be maintained. Small vestibule apertures connected with the foreign and domestic departments permit the delivery of stock without opening the door and affecting the temperature.

Within the finished stock room is a compartment especially designed for the storage of smallpox vaccine, in which a temperature of about 25 degrees F. is maintained.

It has always been the aim of the Mulford Company to deliver biologicals to its distributors in perfect condition, so that if placed immediately in the refrigerator when received by the druggist, ideal results may be expected from their use.

### MENINGITIS.

J. S. Robinson, Winchester, Ind., and Jesse R. Gerstley, Chicago (Journal A. M. A., Oct. 11, 1919), report an epidemic in the Army of Occupation of forty-five cases of cerebrospinal meningitis which an American serum, five months old, and a still older French serum failed to control, but which was later mastered by a more freshly made French serum. From consideration of all the facts, the authors deduce the following conclusions: "1. Bacteria may vary according to geographic location. Perhaps our first serum failed because, in its manufacture, strains and organisms indigenous to Germany and France were not included. This, at any rate, is a theoretical possibility. 2. A conclusion of vital clinical importance is that if a patient with epidemic meningitis does not respond at once to intraspinal treatment, one should not temporize. The agglutinating property of the serum against the patient's own organisms should be tested, and if the laboratory evidence is unfavorable, more satisfactory serum should be secured at once."

### THE NERVOUS CHILD.

According to E. B. McCready, Wildwood, Pa. (Journal A. M. A., Oct. 11, 1919), the well-poised, efficient, emotionally stable adult

is the exception rather than the rule in modern life, and procastination as regards proper treatment of nervous and mental disorders is altogether too common. The physicians are apt to belittle the cases when first consulted, and this class of disease is insidious in its onset. Pessimistic prognoses are also dangerous. While some children are born nervous from heredity, some acquire nervousness from habits or disease, and others have nervousness thrust on them through faulty home and school training. It is the physician's duty to counteract all these conditions and influences, which tend toward aggravation at puberty. There are physical anomalies—cranial or facial asymmetries, ocular defects, enlarged tonsils, nasal deviation, delayed puberty, abnormal growth, etc. Attempts to classify and label cases are useless—it is enough to say the child is nervous, and, therefore, a potential neuropath or psychopath. Its defects must be looked after as early as possible and its environment modified. Unfortunately, this is adapted to meet the adults' conditions, especially in cities, and no matter how conscientious the parents may be they may lack the training required. Most children are overestimated in modern life, and many deleterious conditions are overlooked because they are common. Overfatigue in children brings about irritability, and the exciting conditions of urban life are liable to cause it. Diet is also important, as well as fresh air and exercise. Country life is likely to be better in all these respects than city life. The utilization of nature insisted on by Esquin in the educational system is especially important, and his general rules for garden schools are quoted, but his ideas, unfortunately, have not been, as a whole, put in practice. McCready promises a description of a practical method of education for nervous children, based on Esquin's theories, in a further article.

#### MALAKOPLAKIA OF THE BLADDER.

Two cases of malakoplakia of the bladder are reported by A. I. Folsom, Dallas, Texas (*Journal A. M. A.*, Oct. 11, 1919), both in females. The lesions found were small masses

having the appearance of papillomas, round and almost pedunculated in some places, and in other places with broad bases. They were clustered about and near the trigon. The first patient had had more or less difficulty in urination, undue frequency, burning sensation and difficulty in voiding. The condition was first considered by the pathologist as a carcinoma, but the symptoms did not warrant it. Conditions were about the same in both cases, but in the second there was more general disturbance, the patient appearing below par and anaemic. The condition is discussed. The name was first given to it by Von Hansemann in 1903, but it was first described by others a year earlier. Since that time twenty-two cases have been reported, all but two at necropsy. It appears to be one of late life, all but one being seen in adults over 40—eighteen females, including these cases he reports, and six males. The only article he finds in the English language is one by Pappenheimer, *Proc. New York Path. Soc.* 6: 65-71, 1906-1907, who described two cases. Opinion is divided as to the part played by tuberculosis in its causation. There was no history of tuberculosis in the cases Folsom reports, and a careful examination revealed no evidence of the disease. Writers, generally, are agreed that the lesions are "infectious granulomas of inflammatory origin." Gutmann and Michaelis, alone, consider the condition neoplastic, calling it a form of benign epithelial neoplasm.

#### IPECAC PREPARATIONS.

The reputed value of ipecac against amebas has a drawback; its nauseant and emetic actions which are not always satisfactorily met by coating the pills with salol. The hypodermic injection of emetin hydrochlorid avoids the local actions but often is ineffective, specially in a chronic carrier. Torald Sollman, Cleveland (*Journal A. M. A.*, Oct. 11, 1919), takes up the examination of two emetin compounds which have the quality of being insoluble in the stomach but not in the intestinal secretions. These are emetin bismuth iodid, described in *New and Nonofficial Remedies* and reported on by the Council of

Pharmacy and Chemistry, which is only slightly soluble in water and dilute acids but freely soluble in a 1 per cent solution of bicarbonate of soda. It is evidently somewhat soluble in the stomach and therefore may cause digestive disturbances, though much less severe than emetin. The other preparation is aleresta ipecae, an absorption product of ipecae and fuller's earth, prepared according to the method of J. U. Lloyd, who found that practically all alkaloids are absorbed by this powder and therefore insoluble in neutral or acidulated water. The preparation has been dropped from N. N. R. as not supported the claims made for it. Sollman gives details of his experiments, which might be objected to theoretically but without good reason, he thinks. He finds that emetin bismuth iodid is only slightly soluble in stomach fluids, but freely so in alkaline secretions of the intestines. This agrees with clinical experience, that it is an effective amebicide, but not altogether devoid of gastro-intestinal irritability. The alkaloids of aleresta ipecae are entirely insoluble both in acid and alkaline solutions of physiologic concentration, and the solubility is not improved by the addition of bile salts or of albumin. Pharmacologic literature of aleresta ipecae is confirmatory of the inactivity of the emetin it contains.

### TOXEMIAS AND THE EYE.

G. H. Bell, New York (Journal A. M. A., Oct. 11, 1919), calls attention to the focal infections as met with in the practice of ophthalmologists. For want of better classification, he designates them under the head of the "three T's" (teeth, tonsils and the toxemias of the intestinal tract), these being the most potent ones encountered. Every patient coming to his office, he says, must stand the "acid test" of the three T's, and the same routine, as far as possible, is carried out in his clinic in the New York Eye and Ear Infirmary. Of course, it is understood that, when necessary, syphilis, gonorrhea and an occasional sinus or tuberculous trouble must be excluded in making the diagnosis. The teeth examination includes inspection of the

mouth, palpation of the gums and roentgenograms of all the teeth, dead or alive, pivots, arches and bridges. After eliminating the diseases commonly associated with dental infection, he believes there is a growing tendency to attribute degenerative conditions, like arteriosclerosis, etc., to this cause. A number of cases are reported illustrating the influence of dental disease, and he quotes Sir W. Lang, who traced seventy-four out of 200 cases of iritis to defective teeth and stumps. Any part of the eye may be affected, but the greatest number are affections of the iris, ciliary, choroid or cornea. In his opinion the best way to solve the dental problems correctly is to start with the children in the schools. He says that education in dental hygiene is as essential as education of the mind. There should be legal inspection of tooth brushes, as there is a large amount of trash sold in that line. The dental inspectors should also be taught to examine the eyesight of the children, and pamphlets of instruction should be issued including, also, statement of the evil effect of too much sugar and candies. Bell believes that a dirty mouth is one of the greatest menaces of the human race today. The tonsils have been long known to be foci of infection, but are often neglected or overlooked, and when involved nothing less than radical treatment is of much value. Two cases are quoted showing the effect on the eyes of tonsillar disease. Volumes have been written about intestinal toxemias, but little has been told us as to how to prevent them. How often, he asks, do we demand a urinary examination of our patients? Much space is given to the evils of excess of sugar consumption. Bell considers it a toxic substance the use of which should be discontinued by children and adults as far as possible. Rigs' disease is not only a serious condition, but is very prevalent, and Bell quotes numerous authorities as to this, and reports cases showing its evil effects. He strongly urges the country to "get right" on the dental question, and calls attention to the value of the roentgenogram as an aid to the diagnosis of deep-seated foci, too apt to be overlooked.



## HEAT AND TUBERCULOSIS.

Harry Gauss, Chicago (Journal A. M. A., Oct. 11, 1919), has studied the effects of high temperature during the hot spell of July, 1916, on the patients in Cook County Hospital, with special reference to the effect in tuberculous cases. The normal man is supposed to stand the excessive heat strain. For heat stroke it is not unlikely that heat, pure and simple, is the chief factor. During July, 1916, there were admitted to Cook County Hospital 158 patients suffering from heat stroke and exhaustion. But independent of those admitted as frank heat cases, rises of temperature were observed in other patients, greater than might have been expected in the ordinary course of their diseases. In the tuberculosis ward seven patients had temperatures 2 to 3 F. above that due to the usual course of the disease which corresponded in time with the principal heat wave. Similar observations were made in other diseases, but the tuberculous were taken for special study. Most of them had chronic advanced tuberculosis, and their fever tended to run an even protracted course without marked irregularities. The history of every case in this ward was examined and their temperature records were noted for the hottest five days, and the five days preceding and following. Fifty-six cases were thus observed, and their morning and afternoon temperatures for each day were averaged and plotted. "It is thus seen that in the five days preceding the heat wave, July 20 to 25, the average afternoon temperature varied between 99.5 to 100 F., in the five days of the heat wave, July 26 to 30, the afternoon temperatures varied from 100.5 to 100.8 F., and in the five days after the heat wave the afternoon temperatures varied between 99.7 and 100 F. The striking factor is that during the heat wave the average afternoon temperature was 100.62 F. as compared to 99.8 and 99.86 F. for similar periods preceding and following it." Gauss concludes that the increased temperature during the foregoing period was probably caused by the high air temperatures and unfavorable air conditions.

## SELF-SACRIFICE IN THE WARFARE AGAINST DISEASE.

To facilitate the investigation of some of the threatening infectious diseases that were a source of concern to our medical forces during the war, a number of men volunteered as subjects for inoculation with virus suspected of carrying the etiologic agent of disease. This is not the first time that American manhood has responded so magnanimously to the call of science and preventive medicine. The story of Agramonte, Lazear, Carroll and Reed, who sacrificed themselves in the attempt to discover the mode of transmission of yellow fever, is known to all. While their achievement was not acclaimed with flags or with personal rewards, nevertheless their scientific work and heroism will remain a credit to experimental medicine for all time. Two groups of men modestly made a great sacrifice for their country and for mankind in connection with scientific investigations during the great war. One group offered themselves as subjects for the mode of transmission of trench fever, one of the great puzzle that threatened to work great havoc among the forces at the front. As trench fever apparently is not transmissible to animals, the recourse to human subjects became imperative. The volunteers lent themselves to the demonstration that the blood of trench fever patients is infective, in order to ascertain what element of the blood contains the virus and to discover the relation of the louse to the dissemination of the disease. The story of some of these endeavors and sacrifices has been recorded in the report of the medical research committee of the American Red Cross.\* It deserves to be told along with the exploits on the Marne and in the Argonne. "Words fail," says the official report, "in attempting to express admiration of the morale and courage of the volunteers. They have more than done their part in addition.

\* Trench Fever, Report of Commission, Medical Research Committee, American Red Cross, New York, Oxford University Press, 1918.

\*\* Sellards, A. W.: Insusceptibility of Man to Inoculation with Blood from Measles Patients. Bull. Johns Hopkins Hosp. 30: 257 (Sept.) 1919.

by endeavoring to aid in the accuracy of the experiments." Surely such men deserve official recognition for "the sacrifices they have endured in order to save the manpower for the army and to relieve the sufferings of their fellow men." Today trench fever can be controlled. Another volunteer sacrifice has been recorded in the efforts of the army medical staff to find a method of preventive inoculation against measles. No physician need be reminded of the dangers to which this disease subjected millions of men in the two years just past. Here again, in time of need, to quote Major Shlaid,\*\* who conducted the tests, the individual soldier was found ready and willing to offer his services and accept such risk as was inherent in these inoculations. The nation as a whole may well join a grateful medical profession in reiterating the words of the Surgeon-General to men who, having seen the serious consequences of measles in camp life, for no reward to themselves, gladly accepted the risk simply from a desire to be of service. Aside from the possible danger and suffering, there was the actual discomfort of long isolation cheerfully and conscientiously borne. To these loyal men has gone this tribute:

"The Surgeon-General has been informed of the fact that you volunteered for the measles investigation. He desires to express to you his appreciation of the patriotism and devotion to duty that you have shown and to assure you that your contribution to the cause is appreciated by him just as much as was the bravery of the men who went into the fight in France."—*Journal A. M. A.*, October 11, 1919.

### HAND IN HAND.

One of the main reasons why there has been such a marked improvement in the wholesomeness in food products of the last ten years has been on account of the co-operation between pure food officials, domestic science teachers, and the medical profession. These three elements have been working toward a common end—our protection against unscrupulous manufacturers who have not based their claims to business on the quality, but

rather on cheapness, and who, in their endeavor to market their products on price or quantity, have often resorted to substitution and to the use of unwholesome material. Although progress has been made, yet much remains to be done.

Mr. Harry Lj Eskew, Food Commissioner of Tennessee, has been very active in his efforts to safeguard the health of the people of his state. In the *New York Journal of Commerce* he has the following to say about so-called self-rising flour, which is used in certain sections:

"I would not tolerate flour products like some of the 'self-rising flour' sold in a large part of the South, the concomitants of which are alike unknown and not to be ascertained by the consumer, and whose purity in the matter of phosphate is open to serious question as a deceptive agency."

When the need of improvement of certain food products is pointed out so definitely and at the same time is backed up by thousands of domestic science teachers throughout the country, it is quite natural that American housewives will gradually become schooled in the proper selection of food products, and at the same time demand proper labeling of all food products, and to gain this end, the medical profession will continue to play an important role.

### REGISTERED CATTLE AND REGISTERED BABIES.

Horse and cattle breeders owning "blooded" stock do not fail to have their animals "registered." It adds to their value and is therefore justly regarded as highly desirable.

Contrasting this attitude with that of many careless parent, the Public Health Service gives the following reasons why baby's birth should be registered:

1. To establish identity.
2. To prove nationality.
3. To prove legitimacy.
4. To show when the child has the right to enter school.
5. To show when the child has the right to seek employment under the child labor law.

6. To establish the right of inheritance to property.
7. To establish liability to military duty, as well as exemption therefrom.
8. To establish the right to vote.
9. To qualify to hold title to, and to buy or sell real estate.
10. To establish the right to hold public office.
11. To prove the age at which the marriage contract may be entered into.
12. To make possible statistical studies of health conditions.

### PROPAGANDA FOR REFORM.

**American Made Synthetic Drugs.**—P. N. Leech, W. Rabak and A. H. Clark report on the work which was done in the A. M. A. Chemical Laboratory in the efforts to overcome the shortage of synthetic drugs during the recent war. In particular they report on the examination of and the establishment of standards for proaine (novocaine), barbital (veronal), phenetidyl-acetpheneticin (holocaine) and cinchopen, or phenylcinchoninic acid (atophan), manufacturer under Federal Trade Commission licenses. They report that the shortage of German synthetics was not felt seriously in most cases because the demand for them had been artificially created, and that the few which were in great need are being rapidly replaced by American made drugs. The report explains how the Federal Trade Commission granted licenses to American firms for the manufacture of German synthetics which were protected by U. S. patents, and how these licenses were issued only after an examination of the firm's product in the Association's chemical laboratory had demonstrated that its quality was satisfactory and equal to that of the drug formerly imported from Germany. It is interesting to observe, the report declares, that of all the synthetic drugs imported into this country from Germany and on which American patents had been issued, the demand was sufficient only to make it commercially profitable to manufacture four of them on a commercial scale—namely, arsphenamine (and neoarsphenamine), barbital (and barbital sodium), eincho-

phen and procaine. The chemists caution that, in view of the agitation to found an institute for co-operative research as an aid to the American drug industry, it will be well for the American medical profession to be on its guard against new and enthusiastic propaganda on the part of those engaged in the landable enterprise of promoting American chemical industry.—*Jour. A. M. A.*, Sept. 6, 1919, p. 754.

**Iodin Tinctures, Water Soluble.**—T. Sollmann has investigated the claim that certain proprietary iodine preparations are superior to the official tincture of iodine and to compound solution of iodine (Lugol's solution). The claim of superiority is based on the allegation that the potassium iodide in the official preparations causes local irritant action. Since the proprietary preparations have been shown to contain free hydrogen iodide, this claim seemed improbable to Sollmann, and he surmised that apparent decrease in irritant effects was due to a lower iodine content of the proprietaries, such as Burnham's soluble iodine and Sharp and Dohme's Surgodine. From experiments which he conducted with the various iodine preparations, all diluted to the same iodine strength, Sollmann concludes: The presence of potassium iodide in the official tincture of iodine does not seem to render this preparation more irritant. On the contrary, it is somewhat less irritant to the skin and much less precipitant to protein than the simple alcoholic tincture or the secret and non-secret "miscible tinctures." The more even spreading and the more rapid coagulation of proteins render the simple alcoholic solution of iodine probably the best for the "disinfection" of the skin, while the delayed protein precipitation of the U. S. P. tincture would probably render this somewhat superior for the disinfection of open wounds.—*Jour. A. M. A.*, Sept. 20, 1919, p. 899.

**Secret Remedies and the Principles of Ethics.**—There are on the market today and used by members of the American Association, dozens—yes, scores—of widely advertised proprietaries that are, to all intents and purposes, secret. The physicians who prescribe them do not know and cannot know what they are giving their patients. On this point See-



tion 6, Chapter II, of the Principles of Medical Ethics of the American Medical Association says: "... unethical to prescribe or dispense secret medicines or other secret remedial agents, or to manufacture or promote their use in any way." The inherent and basic reasonableness of the various requirements of the principles of medical ethics needs no exposition or defense.—*Jour. A. M. A.*, Sept. 27, 1919, p. 902.

### **TWELVE REASONS WHY YOU SHOULD JOIN THE RED CROSS.**

It sends emergency supplies and furnishes recreation to 125,000 sick and wounded American boys in fifty-seven hospitals in this country.

It is seeking to take the place of each one of those boys in his family at home.

It is helping discharged soldiers solve their difficulties, especially in regard to allotments, allowances, insurance, bonuses, compensation and re-education.

It is teaching classes in Home Hygiene and care of the Sick with the object of having in every home in the country at least one person qualified to nurse in emergencies.

It is stimulating interest in Public Health Nursing all over the country; has already placed fourteen Public Health Nurses in Chapters in this Division, and has fifteen others in training.

It is financing for the period of two years a course in Public Health Nursing at George Peabody College for Teachers at Nashville, Tenn.

It has placed 158 trained Home Service workers in Chapters in this Division, who plan to extend to the civilian population the same service that has been rendered soldiers' families.

It is spreading a knowledge of First Aid to the schools, industrial plants and homes of the entire country.

It is organizing and conducting Life Savings Corps to cut down the tremendous loss of life from drowning.

It is inculcating ideals of citizenship in the coming generation through the Junior Red Cross.

It stands ready to send aid to communities overwhelmed by fire, flood or other disasters, having answered eighteen calls of this kind in the past year.

It seeks to co-ordinate the work of all other existing social and health organizations, so that they will work together as an harmonious whole.—Red Cross Briefs.

### **THE CHILD'S HANDICAP.**

#### **Ten Per Cent of American Children Have Adenoids.**

Adenoids are handicapping more than 10 per cent of the American children in attaining normal, healthful development to manhood, according to a recent extensive survey in population centers conducted by the United States Public Health Service.

The results of the medical examinations conducted by the draft boards indicate that a considerable proportion of the defects there discovered were unquestionably due to the failure of parents to pay proper attention to the physical defects in young children. Excluding defective teeth, experience throughout the country shows that adenoids are among the most frequent of the physical defects in children.

Adenoids may be prevented, or cured after development. As one of its contributions to improve the nation's health and strengthen its manhood, the Public Health Service has prepared a booklet on adenoids for distribution to parents and school authorities.

It tells the parents how the first appearance of adenoids may be detected by the labored mouth-breathing of the child, particularly while sleeping. Since nature intended that we should breathe through the nose, a provision by which the air thus breathed is purified and warmed before entering the lungs, it is evident that mouth-breathing results in impurities getting into the air passages. The dangers of this alone are many, but there are others, often grave ones. The child with adenoids is almost invariably underweight, hollow-chested and stoop-shouldered, due to the labored breathing. Facial deformity is another result. The upper teeth protrude, are crowd-

Epidemics being bacterial diseases  
create large demands for Bacterial Vaccines  
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it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrans in the proportion that is found in

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are especially adapted to the requirements, for such carbohydrates are readily assimilated and at once furnish heat and energy so greatly needed by these poorly nourished infants.

The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

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ed out of shape, and become a fertile field for the development of Riggs disease. The children suffer from frequent colds, develop chronic nasal catarrh and sometimes lose the sense of smell and hearing.

Following adequate treatment, improvement is marked. The child begins to regain the lost weight, acquires a healthy color, and very soon is the normal person nature intended it to be.

### **EAST TENNESSEE MEDICAL ASSOCIATION.**

The annual meeting of the East Tennessee Medical Association at Morristown on October 16 and 17 was attended by 115 physicians. More than twenty scientific papers were presented and discussed. The Morristown doctors complimented the members of the Association with an elaborate banquet at the New Mitchell Hotel. Everybody had a good time and all agreed to be on hand at the next annual meeting of the Tennessee State Medical Association at Chattanooga next April.

Officers for the year were elected as follows: Dr. C. T. Carroll, Morristown, President; Dr. E. T. West, Johnson City, Vice-President; Dr. W. H. Cheney, Chattanooga, Vice-President; Dr. G. Victor Williams, Chattanooga, Secretary-Treasurer. Jonesboro was selected for the next place of meeting, in October, 1920.

### **DIRECTORY OF TENNESSEE STATE MEDICAL ASSOCIATION.**

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 Vice-President for East Tennessee: J. C. Brooks, M. D., Chattanooga.  
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#### **Delegates to American Medical Association.**

For 1918-1919: E. T. Newell, M. D., Chattanooga; alternate, A. F. Richards, M. D., Sparta.

For 1919-1920: L. A. Yarbrough, M. D., Covington; alternate, J. B. Blue, M. D., Memphis.

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### ACRIFLAVINE IN THE TREATMENT OF GONORRHEA AND ALLIED CONDITIONS.\*

By Perry Bromberg, M. D., F. A. C. S.,  
Nashville.

In the August, 1918, number of the Journal of Urology, Davis and Harrell, of the Brady Urological Institute, Johns Hopkins Hospital, presented a synopsis of their investigation of the properties of a large number of compounds, which resulted in their selecting acriflavine for a series of experiments of which I shall speak later. In all more than two hundred compounds were investigated.

The rate of renal elimination of each one of these compounds was determined by injection into the ear vein of rabbits. It was noted that several of them rapidly diffused into the minute capillaries and within a very few seconds dyed the entire ear a homogenous color. They say "It was very surprising to observe how this wave of color would advance (like a blush) until the ear was completely dyed."

Dr. Geraghty, observing this phenomenon, suggested that the ideal drug in the treatment of urethritis should possess just this property—viz., rapid diffusibility and penetration of the tissues.

As is well known, the gonococci do not long remain in the urethra, but quickly penetrate the superficial layer of epithelial cells and later the deeper layers, not alone hiding themselves( but producing, by inflammatory phenomena further definite protection by tis-

sue proliferation, cell multiplication and the evident formation of some chemical changes from the normal chemistry of the urethral mucosa. Therefore, if we are to destroy the gonococcus we must find a drug which will fulfill the following very definite requirements—viz.:

1. A diffusible drug which will produce a minimum of injury to the mucous membrane.
2. One which will diffuse without deteriorating chemical changes in the albuminous inflammatory fluids.
3. One which will diffuse through pus.
4. One whose tissue penetrability is rapid.
5. One whose antiseptic properties are definite, certain and fixed.
6. One which will maintain the above properties in the presence of urine, both acid and alkaline.

It was observed by Davis and Harrell that of the entire two hundred many of them are germicidal in high dilution in water, but almost all of them lose this property, wholly or partially, when diluted in urine. Of the entire number about a dozen retained their antiseptic action to some extent, and of those, four were both antiseptic and diffusible, and hence were experimentally indicated as being worthy of trial in the treatment of gonorrhea. These compounds were malachite green, brilliant green, proflavine and acriflavine, of which the last, acriflavine, was found to be antiseptic in the highest dilution of them all. This drug was also among the most diffusible.

Without detailing the experiments which were made by Drs. Davis and Harrell, or going into the bacteriological technique, which will be discussed by Dr. Litterer, I merely wish to mention that the antiseptic and germicidal

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

strength in urine, both acid and alkaline, was tested. It was conclusively shown that in acid urine the antiseptic strength of acriflavine to the colon bacillus was reliable up to the dilution of 1-5,000, while in alkaline urine it was reliable up to 1-100,000. The staphylococcus was readily inhibited in acid urine in dilutions of 1-7,500, and in alkaline urine in 1-100,000.

It seems, therefore, from the findings above mentioned, that the authors are perfectly justified in their statements that "there can be no question that in alkaline urine acriflavine will inhibit the development of both the colon bacillus and staphylococcus aureus in a dilution of 1-100,000. In acid urine, acriflavine is almost as effective against the staphylococcus, but will not inhibit the colon bacillus in a dilution much greater than 1-5,000. Even this, however, is more than five times as effective as carbolic acid."

The method for testing the germicidal strength employed was identically the same as that for the antiseptic test, except that the inoculated dilutions were incubated for only one hour instead of twenty-four. These experiments resulted in showing the weakness of this drug in destroying either the colon bacillus or the staphylococcus aureus in either acid or alkaline urine in a 1-10,000 dilution, while one as strong as a 1-500 failed to kill the colon bacillus in acid urine. This would strongly support the authors' contention that acriflavine is not rapidly germicidal, but that its value lies in its antiseptic power.

A test showing the comparative values of acriflavine, proflavine, phenol, argyrol and protargol in inhibiting the growth of gonococci on testicular infusion agar, is interesting:

Dilution.	Acri- flavine.	Profla- vine.	Phe- nol.	Argy- rol.	Pro- targol.
1-500 -----	0	0	0	0	*
1-1,000 -----	0	0	0	*	*
1-10,000 -----	0	0	*	*	*
1-20,000 -----	0	0	*	*	*
1-30,000 -----	0	0	*	*	*
1-50,000 -----	0	0	*	*	*
1-80,000 -----	0	0	*	*	*
1-100,000 -----	0	*	*	*	*
1-300,000 -----	0	*	*	*	*
1-500,000 -----	*	*	*	*	*
1,100,000 -----	*	*	*	*	*
Control -----	*	*	*	*	*

0 No growth; \* Growth.

The authors conclude from the above that "since acriflavine has been shown (1) to possess the property of diffusibility, since (2) it is antiseptic in urine in higher dilution than any other diffusible dye studied, since (3) it will inhibit the development of the gonococcus in a dilution of at least 1-300,000 (has at least six hundred times the strength of protargol), a trial of this drug in the treatment of gonorrhea has been experimentally justified."

The contributions to English literature by Browning, Gulbrandsen, Kennaway, and Thornton relative to the use of such compounds as brilliant green, proflavine and acriflavine in suppurating wounds and especially as a prophylactic against suppuration, are extremely interesting. Browning strongly advocates the use of acriflavine, diamino-methyl-aceridinum-chloride: and claims it is ten times more effective in serum than in water. He has further shown that it is not toxic.

Fleming showed its peculiar affinity for leucocytes by adding the dye to an emulsion of pus cells, removed the cells and found the remaining fluid to be free of the dye and to possess no antiseptic properties.

Davis and Harrell determine the degree of diffusibility by injecting into the urethra of dogs a 1-1,000 solution of the drug; the animals were sacrificed as quickly as possible and blocks taken from these organs for examination. Sections were prepared by the paraffin method and examination showed that it had penetrated to the muscular layers of the urethra and bladder.

I think the above experiments should conclusively convince us that the drug, at least experimentally, fulfills requirements Nos. 1, 2, 3, 4, and to a degree, No. 6. Its antiseptic properties have not been definitely determined, and are by no means certain or fixed.

As this paper pretends to be nothing more than a rather liberal abstract of the paper by Drs. Davis and Harrell, I shall quote their technique and results verbatim.

Technique.

"Urethral injections of acriflavine cause slight smarting which persists for an hour or more. Patients who have had previous treatment with protargol tell us, however, that it

is decidedly less than that caused by the silver salt. The smarting has never been severe, and we have had no patient object to the treatment. We have used dilutions varying from 1-2,000 to 1-100, and have found the 1-1,000 most satisfactory; it is just as efficient as the more concentrated solutions and the smarting is less—in fact, with this strength it is almost negligible. We have had two cases of retention following the use of a 1 per cent solution. These cases complained of no pain except that caused by the inability to void. There was evidently no stricture formation, as they were catheterized without difficulty, and the symptoms promptly disappeared on discontinuing treatment. There have been no complications following the use of a 1-1,000 solution.

"In the anterior cases we have injected about 3 cc. of a 1-1,000 solution into the anterior urethra, the patient retaining it for five minutes. In the posterior cases we have injected 15 to 30 cc. through into the bladder, distending the urethra and having the patient retain the dye in the urethra for five minutes and in the bladder till the next voiding. Injections should be given twice a day until all organisms have disappeared from the discharge and then once a day until the patient is considered well. All our results have been controlled by daily examination of smears from the urethral discharge and of the urine voided in three glasses."

### Results.

"We have frequently had the organisms disappear from the discharge following a single injection and not return during the subsequent course of the disease. In the majority of cases they have disappeared after two or three injections. In a few cases they have disappeared after one or two injections and have been found again later, but have soon disappeared under continued treatment.

"The discharge is markedly decreased from the beginning, very quickly becoming thin and mucoid in character. It then gradually becomes less until about the fifth day it has usually disappeared altogether. In a few of the more resistant cases we have noticed the fragmentation of the leucocytes mentioned by Browning.

	Duration of Disease.	Duration of Treatment.		No. of Treatments.
		Days.		
1 -----	3 days -----	3		3
2 -----	2 months --	3		4
3 -----	4 months --	2		2
4 -----	5 months --	3		3
5 -----	4 days ----	5		5
6 -----	6 days ----	5		5
7 -----	8 weeks ---	6		7
8 -----	2 weeks ---	5		8
9 -----	2 months --	5		8
10 -----	-----	11		13
11 -----	1 day -----	7		7
12 -----	2 years ----	7		7
13 -----	3 weeks ---	16		16
14 -----	4 months --	12		13
15 -----	10 days ----	14		16
Average -----	-----	6 14-15		7 12-15

"In cases of anterior and posterior urethritis we have found that the posterior infection usually improves before the anterior—in fact, it is usual for the urine voided in three glasses to be cloudy in the first and clear in the second and third. The trigonal inflammation also quickly subsides. Cases with frequency and nycturia have frequently had these symptoms entirely relieved by a single injection, nearly always by two or three.

"Some of the dye evidently remains in the urethra for a considerable time. The discharge at the end of twenty-four hours is still stained a brilliant yellow, and microscopically many of the leucocytes are well stained. The urine is definitely yellow and is fluorescent even at the end of thirty-six hours.

"The cases in the above table, though some of them gave a history of gonorrhea lasting from a few weeks to two years, have all had a purulent discharge showing intracellular diplococci when seen by us. Many of them have been receiving treatment since the onset of the disease. One case not included in the list gave a history of gonorrhea lasting four years, and had been receiving treatment regularly for more than a year. This was cleared up very quickly, but it is not included, as this was one of our earliest cases and other substances besides flavine were used in his treatment, though we believe the final result was obtained with this drug.

"We have had recurrences, as is the rule with any form of treatment. We have not resumed treatment in these cases until they had



developed the maximum of immunity, usually in five to seven days. Treatment at the end of this time has usually given prompt results.

"A striking feature of this form of therapy is that in many cases the dye acts almost as a specific, while in an occasional one it seems without any effect whatever. Such cases are evidently not very common, however, as in the considerable number that we have treated we have found only four of this class. Two of these responded at once to injections of protargol. In the third case the discharge was much decreased by acriflavine, but we could not obtain a cure. This patient was entirely relieved by a single injection of a member of the aromatic series with which we were working, and has remained well. In the fourth case, we have not yet obtained a cure with either acriflavine, protargol, or with potassium permanganate. Whether this condition is due to an especially resistant strain of the gonococcus or to some other undetermined cause, we are not able to say.

"We have used acriflavine in a large number of cases, but include in the above table only those that we have been able to follow for several weeks after treatment was discontinued. We realize that this is a small number to report, but the uncertainties of military service lead us to do so at this time. We have found several other substances that have considerable value in gonorrhea and further investigations will be carried out at the earliest opportunity."

The startling results disclosed in the above quoted work aroused my intense enthusiasm. I at once ordered the drug from the Boots Drug Company, Nottingham, England, and began its clinical use in October, 1918, at which time Dr. Litterer was furnished a supply for such bacteriological work as he might wish to try.

I have seen no reports upon its use in gonorrhea complete records of fifty cases. I have fully as many more who were seen in the office from one to half a dozen times and disappeared, many of them no doubt cured and failed to return for that reason. These, of course, are not included in the tabulated table. In every case subjected to treatment careful microscopic examination of the discharge was made before instituting treatment, and the urethra

was clinically irritated by injecting a 1 per cent nitrate of silver solution and microscopic examination made before dismissal as cured.

In connection with the above, I have used acriflavine in varying strengths on chaneroids, from pure powder to a 1-1,000 solution, and without hesitancy advocate it as the best treatment with which I am familiar for this condition. I have in two cases used it in lavage of the kidney pelvis for colon pyelitis in dilutions of 1-1,000 with marked diminution in quantity of pus, but the cases were not well suited for the reason that they were both of the type with a rather large and distorted pelvis and proper drainage could not be established.

I have seen no reports upon its use in gonorrheal ophthalmia. In cervicitis, due to catarrhalis, it is wonderfully efficient.

The following table, showing the duration of the disease, duration of treatment in days and the number of treatments administered, is unquestionably a big improvement on any form or method of treatment with which I am familiar, showing an average duration of treatment of nine and one-fifth days:

Case.	Duration of Disease.	Duration of Treatment in Days.	No. of Treatments.
A. C. A. -----	2 years-----	21	20
A. L. A. -----	5 days -----	5	7
E. K. B. -----	1 day -----	1	2
W. J. B. -----	3 weeks----	30	25
H. M. C. -----	3 months--	21	20
A. A. C. -----	2 days -----	4	4
Mrs. J. A. C.---	5 days -----	7	7
B. V. C. -----	20 days -----	5	5
C. C. -----	1 day-----	5	5
D. C. C. -----	2 days -----	2	2
W. B. C. -----	5 weeks----	10	10
W. A. D. -----	4 weeks----	4	4
E. D. -----	5 months--	7	5
Mrs. A. C.-----	3 months--	4	4
B. E. -----	5 months--	93	75
J. E. -----	5 days -----	2	2
J. F. G. -----	1 day-----	4	4
G. C. G. -----	20 days -----	12	15
W. H. -----	32 days -----	14	12
R. H. -----	2 days -----	4	4
J. S. H. -----	1 day-----	1	1
E. H. H. -----	15 days -----	20	20
S. K. -----	2 days -----	7	7
E. L. -----	4 days -----	4	4
R. P. L. -----	1 day-----	7	7
G. H. M. -----	3 days -----	4	5

A. M. -----	5 days ----	7	7
W. M. -----	7 days ----	10	10
J. G. Mc. -----	2 months--	17	20
A. E. McG. -----	1 day-----	3	3
R. A. M. -----	30 days ----	7	7
B. P. -----	4 days ----	5	5
E. P. -----	1 day-----	1	1
E. A. R. -----	14 days ----	14	14
R. L. R. -----	24 days ----	7	7
H. A. R. -----	4 months--	5	5
A. S. R. -----	2 days ----	30	Uncured
P. A. S. -----	3 days ----	4	4
J. S. -----	2 days ----	5	5
T. S. -----	1 day-----	1	1
B. S. -----	1 day-----	4	4
R. T. -----	3 months--	7	7
S. V. -----	2 weeks--	3	4
E. M. W. -----	3 days ----	3	3
O. M. W. -----	2 days ----	7	7
R. S. W. -----	3 days ----	2	2
Wm. S. W. -----	30 days ----	5	5
C. W. W. -----	2 days ----	2	2
J. W. W. -----	4 days ----	7	6
Average -----		9 1-5	

From the above, it will be observed that in eight of the fifty cases the disease was actually aborted within three days. I have never been able to do this with any other drug.

In one case, with a para-urethral infiltrate as large as a small pea, the solution was injected directly into the center of the infiltrate hypodermically, and it disappeared within a week, cure being complete in twenty days. I regret that time will not permit a full and complete report, but I am fully in accord with the authors as to the beneficial results. Certainly it is far superior to argyrol.

I have had quite a few recurrences, but they promptly yielded when treatment was re-established. I have had a few cases that did not respond at all to the treatment—in fact, it seemed always to make them worse—and in which the drug was promptly discontinued. I heartily commend the drug for further trial, and concur in the conclusions of Drs. Davis and Harrell.

### Conclusions.

First. Acriflavine will inhibit the development of the gonococcus in protein-containing media in a dilution of 1:300,000 (six hundred times the strength of protargol).

Second. It will penetrate through the sub-mucosa of the urethra and bladder.

Third. It is non-toxic, and only slightly irritating to the urethral mucous membrane.

Fourth. The average duration of gonorrhea is distinctly less than with the usual method.

Fifth. In an occasional case it seems without effect upon the course of the disease.

### DISCUSSION OF DR. BROMBERG'S PAPER.

Dr. John E. Hall, Nashville: Personally, I have had no experience with the use of acriflavine, and being desirous of finding out what others thought of its value, I recently wrote to twelve prominent urologists, as well as to three medical journals. Their replies may be of interest, so I will quote them.

Dr. Gideon Timberlake, of Baltimore, says:

"Something may be said for and little against it.

"First. It is non-irritating, and when used in the very early periods of Neisserian urethritis before the sub-mucous invasion, it works very happily. This is also accomplished by the silver salts, such as protargol, etc.

"Second. It should not be used as an injection to the posterior urethra when there is an actively acute urethritis.

"Third. It is used with satisfaction in chronic posterior urethritis as instillations.

"Fourth. It is used with especially good results in cases of cystitis resulting from pyelitis.

"Fifth. It should not be used in pelvic lavage, as silver salts are better for disinfecting purposes.

"Sixth. It should be used in strength of one to one thousand."

Frederick K. Bierhoff, Henry G. Bugbee and A. L. Wolbarst., of New York; W. L. Champion, of Atlanta; Wm. F. Braasch, of Rochester, Minn.; Gustav Kolischer, of Chicago, and B. A. Thomas, of Philadelphia, have had no personal experience with acriflavine. Thomas refers me to reprint by Davis and Harrell. Kolischer states that he would accept the glowing reports as valuable, if he were convinced that the results claimed were obtained under unfavorable hygienic conditions, and further states that the same kind of report appears every time a new kind of gonorrhea preparation is placed upon the market.

Wolbarst states that he believes that from what he has heard that it has distinct merit, but that this belief is not based on personal experience.

The Journal A. M. A. says: "A considerable number of reports of acriflavine and proflavine have appeared, particularly in England. Some speak highly of its antiseptic and germicidal value, while others report that the trial to them was disappointing; and that in any discussion bearing on these products, it should be emphasized that these drugs are in the experimental stage."

The Medical Record says: "That acriflavine and

proflavine have been used extensively in the treatment of wounds in the war. Some surgeons have praised it highly, while others have found it of little value. Those who have studied its actions most carefully seem inclined to believe that it has a relative antiseptic action for certain micro-organisms, and is more or less inert in the presence of mucus."

The Urologic and Cutaneous Review says: "So far as we can ascertain, very few urologists are using acriflavine. It has been mentioned once or twice in recent literature, but some time will be required to determine its value.

"Several local men of high standing here at St. Louis do not speak very encouragingly of acriflavine."

Dr. Louis Ernest Schmidt, of Chicago, says: "I have used acriflavine in a series of cases, exactly as advised, chiefly in gonorrheal cases, as well as in other cases in a way which I considered advisable.

"My results have been something like this: A certain number of fresh anterior infections, where there has been no previous gonorrheal history, have not given me more than twenty per cent of results. I mean chiefly absence of the gonococcus after one or two treatments. Discharge has kept up in these cases for some length of time.

"In older cases, and particularly where there is a gonorrheal urethritis totalis the results have not been as satisfactory as in the first group.

"In the nonspecific urethritis cases, acute and chronic, where no gonococci can be demonstrated, nor where the gonorrheal complement test is positive, has it been of any marked value.

"I have also used acriflavine in some colon bacillus infections of the prostate and bladder, and it has given me no particular results.

"I must state, all in all, that acriflavine has not come up to my expectations. I am at considerable variance with the more or less universal good results obtained by others."

Dr. John R. Caulk, of St. Louis, says: "We have used acriflavine for some time. At first we thought it was wonderful, but with few exceptions have met with utter disappointment. There are a few cases absolutely g.c. in which one injection has cured it completely, but I should say that it does not amount to 5 per cent.

"Otherwise I see nothing particularly startling about it, except that it is very trying on the office and clothing."

Dr. Hugh Cabot, of Boston, says: "I am not surprised that you do not find the literature of acriflavine as a method of treating acute urethritis voluminous. It has not been much used, and the only conclusions that I should be able to draw would be of its effect on the treatment of wounds. In this, its action is thoroughly understood and has been completely worked out. It has a high-grade ability to inhibit bacteriological growth,

and make wounds appear fresh and clean. It would, I believe, if used in the urethra, have the effect of rapidly curtailing discharge. On the other hand, I am not sure that important Irish dividends may not be paid, as its most striking effect in wounds is its tendency **not only to stop bacteriological growth, but entirely stop healing.** The wounds after as much as two weeks have the appearance of fresh wounds without granulations. Should it work in this way on the mucous membrane it might well have the effect of producing a high grade of chronicity, and while its immediate effects might be striking, its later results might be undesirable. It has not a high grade of bactericidal power, though this is, of course, equally true of all the other antiseptics which are available for this purpose.

"I shall watch its use with interest, but without as yet any particular tendency to employ it in my clinics until a sufficient time has elapsed so that its trial in the hands of others can be shown not to have the effect of producing chronicity, which seems to me not at all improbable. If results reported were those which had been observed only for a few weeks, I should be willing to take the view that this evidence was quite unconvincing, and that I should want to know what the conditions of these patients three, four or five months later proved to be."

Dr. Bromberg (closing): I think the report of the discussion which Dr. Hall has read is eminently fair, and I would not have you believe that I have advanced acriflavine as a cure-all for gonorrhea. I certainly would not lend my support to any such idea. I have simply given you a fair statement of the report of fifty cases in which my results have been better by this method of treatment than any other I have used up to the present time.

You will all no doubt recall that salvarsan was first given to us as a means by which we could sterilize our patients from syphilis with one dose, and at that time I did not believe it and was rather skeptical as to its use. I am rather skeptical as to the permanent results from acriflavine, but our experimental work up to the present time seems to be rather strongly favorable to the drug in the treatment of gonorrhea and allied conditions. I would especially endorse it, Mr. President, as being almost, if not an actual specific in cases of chancroid. It has given me most excellent results in chancroidal infections. In cases of endocervicitis the pathological conditions will clear up without any difficulty. I have seen no bad results following its use in gonorrhea, except in one or two cases it seemed the patients tolerated the drug rather badly. I shall without any hesitation continue the investigation I am now making relative to its use in gonorrhea, and next year it is possible that I may change my mind,



but at the present time I regard it as a distinct advance in the treatment of gonorrhea.

It stains the clothing a brilliant yellow at first, and when the clothing passes through the laundry the color is a dark black. The patient's clothing can easily be protected from staining, but as yet, we know of no protection to office linen.

As to irrigations of the urethra, I have used irrigations in dilutions of 1 to 1,000 and 1 to 300,000. I have used the ordinary technic, simply instilling it in the urethra with a bulb syringe and having the patient hold it for ten minutes. I prefer the dilution of 1 to 1,000 in normal saline.

(Note.—Other discussion of Dr. Bromberg's paper has not been placed in the hands of the editor.)

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### A PLEA FOR MORE PERFECT ANATOMICAL RESULTS IN FRACTURES.

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By S. R. Miller M. D.,  
Knoxville.

Through the past centuries surgeons and general practitioners have treated fractures with a view of obtaining good functional results. Their efforts have met with a fair degree of success, but many failures also have been recorded and many more have not been entirely satisfactory. Likewise, bad results have been considered inevitable in many special fractures and in a small per cent of simple fractures.

Statistics show that the large majority of fractures occur in the laboring class—those engaged in manual labor and modern industrial pursuits. They often involve legal liability or alleged liability, and the claimant often consciously, and sometimes unconsciously, desires and endeavors by every fair, and oftentimes unfair, method to make as great claim as possible, and uses all kinds of schemes to substantiate the claim. Likewise, more suits for malpractice are instigated against the physicians or surgeons for results obtained in fractures than all other combined cases of professional work. Such suits are usually filed under the pauper oath and are very unjust, as is proven by the records of our various courts, but after the doctor has had much worry and sometimes considerable expense to prove himself guiltless.

The advent of the x-ray and almost perfect aseptic operating technique have given to the

surgeon greater advantages in the treatment of these cases, and many are now utilizing them. While the x-ray is an advantage in making better and more accurate diagnosis and securing better results, it also points out clearly the bad results. It reveals the bad anatomical positions and may be made to magnify or distort some of them. Fortunately this agent is now almost entirely in the hands of skilled specialists who are working in harmony with ethical physicians. The records of their examinations show that a large majority of cases treated without operation have good or fair functional results, but comparatively few have perfect anatomical results. The more frequent use of the Roentgen ray should be made by all those treating fractures, and the practitioner who only occasionally treats a fracture case needs this aid more than one who treats them daily. The automobile and the good roads make the examination accessible to the great majority of cases, even though they are not in close proximity to the x-ray laboratory in the city.

Good anatomical results cannot be secured in many cases without operation. Formerly operations resulted in but little better results than the non-operative treatment. Infection too often followed, especially when non-absorbable material was left in the bone. The use of non-absorbable material, whether plate, band, screw or wire, requires the most perfect aseptic technique of any surgery. The brain, the lung, the pleura, the abdominal cavity and each of its organs, will often permit of weak parts in the chain of aseptic technique, but bones in which non-absorbable material is used will not. Likewise, focal infections will occasionally, by haemic infection, defeat a perfect bone operation, when they would not seriously affect operations of like magnitude in other parts of the human body. It is therefore essential that the whole chain of aseptic technique be as near perfect as scientific knowledge and human skill can make it. No general surgeon, even though very skilled, in abdominal work, should undertake bone surgery of election, except that he recognizes the unusual difficulty in this special class of surgery and has good training and equipment and assistance to do the work. With such, many cases of fracture can

be safely and best treated by open operation and good anatomical results and a better and quicker functional result secured, than by the best treatment by closed method.

Before deciding upon open operation, however, the patient's general condition, as a surgical risk, should be carefully considered. Bad surgical risks and points of suppuration or other infections already present, in close or remote proximity to the fracture, should deter us from open operation in all cases of election. On the other extreme, if the patient cannot withstand long confinement an open operation may shorten the period of confinement considerably, and therefore be the lesser of evils.

Many fractures, however, do not belong to those classed as operations of election and would, without an open operation, leave the patient with little or no functional result. Many amputations have been necessary in these cases. More often many cases have been treated expectantly or ignorantly, with a hope that Nature, the oldest and greatest of surgeons, will work the case out some way, some how, some time. In the end the doctor is severely censured or, perchance, sued, and the patient's earning capacity reduced or destroyed and his life saddened. Occasionally muscles, tendons and sometimes nerves are engaged between the fragments, and render reduction impossible and union improbable, and, without the x-ray or open operation, such conditions may not be recognized until the period for open operation has passed.

Laymen, and often physicians, think the operation should be done immediately or soon after the injury. Such is not the best surgery. It must be admitted that it has been done in the early work of many surgeons, but it did much to discourage them and to postpone the more general adoption of the open operation.

The late John B. Murphy taught us the advantage of operation at the time of election. Nature cofferdams the lymph spaces and places a barrier to infection about the wound in the first week after injury and operation should be deferred until the end of that time to secure the greatest assistance from nature in preventing infection. After

ten, or sometimes fifteen days callus is being provided for repair and nature should not be disturbed at that time, except as a necessity. Therefore the second week is the time of election. After three or more weeks the callus may be so well organized that much more difficulty is experienced in adjusting the bones and the added traumatism of the operation in removing the callus or organized tissues greatly adds to the danger of infection. Cases at that time are often best left alone, even though the functional result may not be perfect.

In conclusion I wish to say that fractures of the patella, extra-capsular fractures of the upper fourth of the femur, fractures of the lower fourth of the femur and oftentimes the shaft of the femur, the tibia, the humerus, the olecranon process, and the shaft of the ulna or radius, may be treated by open operation, with advantage, provided the case is a good surgical risk and can be operated upon in the time of election by the best skill, with the best hospital advantages. Such operations are essential for a functional result in some cases and will secure better functional results in others. It is the only method by which good anatomical results may be assured and will often shorten the time of the patient's disability.

In these days of professional progress let us be satisfied with nothing but the best.

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### MULTIPLE NEURITIS—ITS TREATMENT.

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By Douglas Hayes, M. D.,  
Traey City.

Essentially there is but slight difference in polyneuritis and that of the peripheral form.

Pathology teaches that the disease results from degeneration of both the myelin and the nerve substance. I do not suppose there is any form of disease more productive of pain and, at the same time, less responsive to treatment.

Polyneuritis (with the exception of alcoholic cases) is generally secondary to some of the acute contagious diseases, and for this reason it is more often met with in childhood than in adult life. Still, those that were so

unfortunate as not to overcome the paresis in its early stage are detected by an incoordination or a paralysis of the extremities from the atrophy of the muscles involved.

The diagnostic symptoms are well marked. At the onset the pain is very great, the tendon reflexes are depreciated, if not totally abolished. Pressure over the nerves that are always inflamed is productive of great pain.

To secure for the patient the most satisfactory, as well as the most beneficial treatment, we should determine which nerves, or groups of nerves, are involved, and with this in view we must study closely the motor points, muscles and nerve supply.

I shall not dwell upon either the pathology, or diagnosis of this trouble, but I would say that the prognosis in these cases depends upon our ability to follow closely every minor detail as to the management of the patient, that he may not be allowed to pass into a chronic stage. The depreciation of nerve life brought on by disease that robs one of vitality should be overcome as rapidly as possible. In other words, we are living in an age where our thoughts should be upon preventive means, by which the ills of our fellow-man should be very greatly reduced. As both the infectious and contagious diseases reduce greatly the vitality of the body, every means at our disposal should be used with a view of preventing, as much as possible, this loss.

For instance, enteric fever will sap the nerve substance more rapidly than most any form of disease. Knowing this to be the case, is it not wise for us while administering in a medicinal way to patients that have typhoid to give them drugs that prevent nerve loss?

I find that by the use of these two inorganic substances, phosphorus and lecithin, that cases of neuritis are not so prevalent in my practice now as they were in former years. It is a known fact that phosphorus and lecithin are substances associated with the normal body and that without them we are more or less subject to nerve depreciation.

The treatment of this disease is not alone confined to medicinal means. While drugs go a great way in restoring lost functions, yet, without mechanical appliances and electrotherapeutics, it is most difficult to overcome a severe attack. Our first thought in the man-

agement of the patient is to see that the members involved are placed at complete rest. I know of nothing better, where the lower extremity is involved, than the twin splint made of plaster of paris, the anterior being cut away, leaving the posterior and lateral sides as a support for the limbs. So long as the acute, or active polyneuritis exists, only the medicinal form of treatment, with complete rest, should be resorted to. The subsidence of the active stage can be judged by our ability to manipulate the members with practically no pain. As I have previously stated, I know of nothing in a therapeutical way by which the hungry nerves of the polyneuritic will respond to more rapidly than phosphorus and lecithin. The lecithin can be given subcutaneously from ampules if you so desire, and the phosphorus can be given in the form of the acid phosphoric, which I find more agreeable by the elixir of calisaya and glycerin. Rest for the patient is most essential, yet in given cases difficult to secure. Small doses of codein given hypodermically seem to answer with many, but it should be administered with due care.

On the subsidence of pain, when the limbs can be removed from their incasement of rest, there is nothing so good as electro-therapy. It is right here that the osteopath has done his great work, and where until recent years the ordinary physician has shown his weakness, but since the science of electrotherapeutics has come to our assistance, we are able to do all that is required. The most satisfactory current to be used in these cases is the galvano-faradic. The large indifferent electrode should be placed over the cord in the lumbar region, and then connected with the negative pole of the battery. Should the polyneuritis be confined to the upper extremities, then the indifferent electrode should be placed over the cervical region. If the patient is so situated that daily treatments can be given, then it is best that one member be treated one day and the other the next day. I find that in electric treatment, one given rule will not answer for all cases. But with the various electrical appliances that we now have at our command, it is not very difficult to select the proper current in each given case.



## INJURIES OF THE CORNEA.\*

By W. W. Hill, M. D.,  
Harriman.

There are two good and sufficient reasons why we should give the subject of injuries of the cornea serious consideration: First, the frequency of their occurrence; second, the dire results as to vision that may follow.

The cornea is more often injured than any other part of the eye, because it is anterior and most exposed, and herein lies a danger. The very commonness of the occurrence of such injuries begets carelessness in their handling.

The Creator of this wonderful organ of sight made the cornea transparent, and, therefore, necessarily devoid of blood vessels, except at the extreme periphery, in the form of loops. The manner in which it gets its nourishment and repairs any injury is by the circulation of lymph through the corneal spaces in the *substantia propria*. On this account, it has a low power of resistance and we can understand why it is peculiarly liable to infection and is a ready prey to any pathogenic germs.

I here make a statement which may seem paradoxical, and perhaps it is. It is based on no authority that I know of; nor do I attempt to explain it by any scientific or physiologic reasoning, but give it simply as my individual opinion, formed from observation. The statement is this: An injury of cornea, without infection, nature heals up most kindly and rapidly; but with infection, this tissue early in the fight raises the white flag and soon becomes necrotic under the influence of pathologic processes. Or, placing it in the form of equations:

Corneal injury, minus infection, equals good vision or minimum impairment.

Corneal injury, plus infection, equals loss or great impairment of vision.

Assuming that these statements are true, we, as oculists, can clearly see our duty and

responsibility. Using a military simile, we are in command of the army of defense, opposing the enemy's hordes, who are besieging this crystal city. Our first duty is to prevent any breach in the line of defense, and second, if there is a break in the continuity of tissue, rally our forces to that spot and prevent the enemy from getting through, closing the breach as soon as possible.

But someone may say it is not within our power to prevent injuries of the cornea. While our ability is limited in this direction, we can do much by an educational propaganda:

First. By endeavoring to obtain for those industrial workers whose employments are extra hazardous to the eye, every means possible for reducing the risk, the best and most practical of which is wearing goggles. As an illustration of the protection afforded the eye by this means, I will mention the result in the case of a factory in Harriman, where the employes were constantly exposed to the flying particles of steel and emery dust; consequently their entrance into the cornea was a frequent occurrence. I have been called upon almost daily to remove these particles, but after these workmen were provided with goggles to wear, these accidents were reduced fully seventy-five per cent, and those who did suffer were those who would not use the protection afforded.

Second. We should not lose an opportunity of condemning that very reprehensible and dangerous practice, too common among the laity, of allowing just anybody—Dick, Tom or Harry—to try to remove a foreign body from the eye with whatever is convenient—match, toothpick or knife-blade—regardless as to whether it is clean or not.

Third. We should educate the public as to the danger to the eye of a chronically infected lachrymal sac, and endeavor to impress upon every one with dacryocystitis the importance of ridding himself of it as soon as possible.

The human eye is one of the most marvelous and delicate mechanisms known, and, next to the vital organs, the most important part of the body. And we should approach the treatment of any injury of the eye with the same trepidation and sense of responsibility

\*Read before the Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

with which the abdominal surgeon enters the peritoneal cavity.

Take, for instance, the smallest and most common accident to the eye, that of a foreign body in the cornea; we will not be clearing ourselves of all blame and liability, or doing our full duty to our patient, unless we observe all the laws of antisepsis in dealing with the condition. We should with clean hands flush out the conjunctival sac with some good antiseptic solution; then, with an absolutely sterile spud or needle, lift out the foreign body with the least injury to the cornea possible; and then it were best if the eye was bandaged for twenty-four hours. While I admit ninety-nine out of one hundred corneas may escape infection without all this care, yet the saving of one eye would pay us for all our trouble.

It would be superfluous for me to speak of the more serious injuries of the cornea—such as penetrating and lacerated wounds. For if we can be prevailed upon to give slight injuries our most careful attention, we most certainly would do likewise with the graver ones.

The purpose of this paper is to emphasize the susceptibility of the cornea to infection, and the necessity for strict antisepsis in dealing with any injuries. Also to bring about a proper appreciation of the cornea in its true value and beauty. It is the window of the soul. Through it we look out and behold all the beautiful and grand objects of nature; see the marvelous things made by the genius and skill of men; it is the channel through which seventy-five per cent of knowledge enters the brain; it contributes so largely to the pleasure and happiness of man. But with it destroyed, it is as if the curtain of eternal night was drawn and all this beauty, knowledge and pleasure shut out.

Therefore in dealing with the cornea, let us give it the care and consideration which it deserves.

#### DISCUSSION OF DR. HILL'S PAPER.

Dr. Robert E. Sullivan, Nashville: Mr. Chairman and Gentlemen of the Society, I am sure we have all enjoyed Dr. Hill's paper. There is one thing that he mentioned which I would like to emphasize—that is, the wearing of some protective measures by all industrial workers—that is, glasses to protect the eyes, especially the cornea. Most of the injuries of the cornea that we see

are those which occur in shops or some industrial work, whether they be foreign bodies or burns from chemicals or hot substances.

All injuries occurring should have immediate attention and be treated as infected injuries until they prove otherwise. One form of injury that was brought clearly to our minds in France was gas keratitis. These injuries ranged anywhere from a mild to a severe keratitis, so much so that in a few cases both eyes were lost. These cases when we saw them had extreme oedema of the lids, conjunctiva; the cornea swollen and opaque; the most striking feature was photophobia. The other type of cases were due to small fragments thrown by shell or concussion from high explosives. The latter were lost.

Dr. Robert Fagin, Memphis: Mr. President, I just wanted to thank the doctor for this paper, and I want to emphasize the fact that he brought out of covering up the eye after corneal injuries. I know I am guilty of not covering up the eye as often as I should, and one time last summer I repented greatly. I removed a foreign body on Saturday. I did not see it Sunday, and by Monday the cornea was in full bloom with infection; and I don't know yet whether I was to blame for not covering that eye up. Anyway, I felt to blame for it. I do want to insist, and I feel that I will hereafter cover up the eye, even from a slight foreign body that is removed from the cornea; simply cover the eye for the first twenty-four hours, put argyrol in it, or silvol, then cover it over and leave it covered; then if it becomes infected, you will feel anyway that you have done your part.

Dr. Herron, Jackson: Mr. Chairman, I did not hear the paper read, but I gather from the discussion that it is on the subject of injuries to the cornea.

At a gathering of railroad men, I told them that any man who removed a foreign body from the cornea without covering the eye for at least twenty-four hours and using some antiseptic, was not doing his duty; and I said to the general surgeon of the Illinois Central Railroad that I hoped they would make it a law that everywhere there was a foreign body removed, it matter not whether by an employe, or what not, that that man should have a covering for that eye, and hold it on there until he gets to the surgeon. They failed to adopt that advice. I made no resolution to that effect, but just replied to the general surgeon's paper, and that was about three years ago, and even before that, and since that, I have removed, of course, hundreds and hundreds of foreign bodies from the eye, and I invariably use a bandage. Any employe from the I. C. Railroad that comes into my office and refuses to allow me to bandage that eye until I say remove it, I refuse to remove the foreign body, or he takes it at his own risk; that is, if he has a corneal

ulcer, a central corneal ulcer, that may impair his vision, that he cannot bring suit against that corporation. Occasionally you will find one of these "smart Alecks" who will absolutely refuse to do so, and I make the statement to him that I will not give my testimony in his case if he refuses to obey my command. I never have a corneal ulcer from a foreign body, and all the corneal ulcers that I get are from men, generally, that have removed those foreign bodies down in the different departments where they work. As you know, the most of them attempt to remove those foreign bodies with toothpicks, or something of that kind. But last year, while doing the most of the work for the Southern Engine & Boiler Works there, hundreds and hundreds of those employes would come to me, and invariably somebody had attempted to remove a foreign body from the eye. One day I received a note from the management there, asking me to get a certain man back to work as soon as possible. I said that I was going to put a covering on these men's eyes, and protect them. And frequently they will come to you with two or three foreign bodies in one eye, and it is absurd to send those men back to their work, like I have seen done there, and subject those men to the hazard of corneal ulcers and impair their vision all their life. And we come in contact with these things, and I invariably use a ten per cent solution of silvol and inject it in the eye freely and frequently, bichloride after removing the foreign body, and then use silvol, and if I think it is a bad wound, I tell that man to come back the next morning, and I use it again. I have my assistant to wash out the eye thoroughly and put a bandage on it, and don't let that man go back to work and use that eye until he is thoroughly well, thereby protecting the man and protecting the corporation.

Dr. M. M. Cullom, of Nashville: Mr. Chairman and Gentlemen: In the last copy of the American Journal of Ophthalmology, I had read a report of a medico-legal case, where a man came to the railroad surgeon in Minneapolis, I think, with a foreign body. He had made efforts, or some one else had made efforts, to extract this foreign body. The surgeon removed the foreign body, and gave him a solution of boracic acid, which he declined to use. He came back the next day with an ulcer. Further treatment was instituted. In two days he came back, and then with a well-developed ulcer. He was referred to the chief surgeon of the road. The eye developed infection, and he lost the sight, although the ball was saved. He sued the first surgeon who treated him, and they had no medical testimony whatever to support him, and the jury gave a verdict of over seven thousand dollars against the surgeon, which was affirmed by the supreme court.

Now that made my flesh creep. When we think

about what any of us are exposed to in the hands of a jury these days, and to have a matter like that go through all the courts and be affirmed, puts us in a pretty dangerous position.

Now I must say that I do not agree with the theory of closing up the eye. I never do close the eye, and I do not now recall any case of infection following foreign body removal. I do not do much industrial work, only remove foreign bodies that come in in the ordinary course of work; but I always use sterile instruments, flush the eye and use sterile instruments in removing it, and then drop in a twenty per cent solution of argyrol, and instruct the patient to bathe the eye with hot water fifteen minutes at the time several times during the day. I cannot help but feel that the eye will drain better if it is open, and that the exposure of an open eye following the extraction of the foreign body is not a great danger if the eye is taken care of. I do not recall ever having had an infection following the removal of foreign bodies.

Dr. W. W. Potter, Knoxville: In regard to Dr. Cullom's statement, I do a great deal of industrial work—railroad work, mine, copper mines, zinc mines, etc., for a great many patients, employes of these different corporations, especially the Southern Railway, with complete shops in our town, and I believe if we were to do all the cases as Dr. Herron mentioned over there, the Southern Railway Company would have a third of their men usually going around with one eye closed up. They cannot carry on their business there if we close up all those eyes.

Dr. Herron: The I. C. is a pretty big corporation.

Dr. Potter: Yes, but in our cases, I do like Dr. Cullom. We have individual cases, of course, which necessitate covering the field up. Every case is a case to itself. Very often, when you have a deeply embedded foreign body, you naturally want to treat that wound aseptically, and keep the eye dressed and put it in splints, and, naturally, I do cover those particular eyes. But the vast majority of those cases that come in and have a little piece of foreign body, a little piece of metal, or cinder, or something that is very easily taken off, flush it out, and put a little argyrol—or Dr. Herron's favorite prescription, silvol—and let it go at that, with the instructions, always, that if that eye "blooms," as my friend Fagin says, to come back before it gets into full "bloom," and treat the eye aseptically, to clean it. But the idea of closing up all these eyes, no matter whether it is a serious condition or not, just to make a general rule of covering them all up, I don't see any necessity of it.

Dr. G. C. Savage, Nashville: I want to endorse the paper as read by our friend, Dr. Hill. He has not laid too much emphasis on any one of the several classes of injuries that he mentions. I



want to call attention again to what some of you may have forgotten, because sometimes we have to have line upon line and precept upon precept. We have all sorts of injuries to occur, but those from the shop amount to but little, as compared to those of the field. An injury of the cornea with a particle of dead vegetation is the most severe injury that we have to contend with, and those of you who have not reached that conclusion from observation and experience would better take my word for it, and deal with them in a serious sort of way when they come under your observation. Dead vegetation is the most deadly thing to the cornea, as far as injury is concerned, that I know anything about. I mean injuries that do not penetrate, just simple wounds of the cornea that are non-penetrating. I believe that every cornea that is injured should be looked on with a concern to do the thing that will destroy the infection that has already taken place; and caution should be given to the patient who has thus been injured, not to have any subsequent infection occur by the use of dirty handkerchiefs or soiled fingers about the eye that might convey infection. I believe every wound to the cornea should be considered as if it were an infected wound, even though the injury was inflicted only a minute ago. We do not know whether germs were on the particle that made the injury of the cornea, but it is safe to take it for granted that there were germs on it and do something that would destroy those germs and prevent infection from actually taking place. Now, silvol will do it; argyrol will do it—in spite of the fact that some folk are not as strong believers in it as Cullom and some of the rest of us—almost any silver preparation will do it. But acetic acid will do it, too. (Laughter.) And there are more things than that, by the way, that acetic acid will do, but these are not under discussion now.

I never allow a patient with an injured cornea to go out of my office with an unprotected eye. I protect him in two ways: I instill something in the eye that will destroy the germ life which may be in the open wound that has been left after taking the foreign body out. Boracic acid will do, but my favorite—for thirty years I have used it—is tincture of opium and boracic acid, and I use it freely. I split the difference between Cullom, on the one hand, and Herron, on the other, and keep the eye open, but I have a flap in front. (Laughter.) That gives protection from the irritation that will come from exposure to light, it gives protection from dust, and altogether it adds to the comfort of the patient. If the injury is not of a nature that will make it necessary to rest the twenty-four hours, they go back from my office to work, and I tell them to "work with the flap today and tomorrow," and to use the boracic acid wash, which I always give a prescription for, for the next three or four days. I tell the pa-

tient if he has trouble to come to see me tomorrow.

I was impressed most profoundly with an injury to a personal friend of mine, but who was not a patient of mine. I saw him in consultation after the injury by a cinder in the eye. One of my confreres treated him, and I am sure that he removed the cinder with every care, without infected instruments. I don't know what he prescribed for him to use afterwards, but I do know that that eye became infected, and I do know that in consultation over the case I had to give the advice to enucleate the eye. Even if we are most careful with those injuries that are caused by particles of dead vegetation, we are almost certain to lose the eye, in spite of everything that we can do. (Applause.)

Dr. G. M. Peavler, Bristol, Tenn.: I want to endorse what Dr. Savage has just said about the injuries from the field. My experience has been that these infections occur very much oftener from injuries received in the field than those received in the shop or factory. A straw, a sprig of hay, or a blade of fodder, or any of these things, if they strike a man in the eye, are liable to cause an ulcer. I do not think I have ever seen an infection of this kind result from a spark or cinder, or things of that kind, yet they do sometimes occur. Another thing—the age of the patient has something to do with the danger in these cases. To a man under forty-five the danger is less than to a man over that age. The older the individual the greater the danger of corneal infection.

Another question for discussion is, whether the eye should be closed or left open in treatment of these cases. There are many who claim that following a cataract operation, there is less danger of infection if the eye is left unbandaged. If this is true in theory, then the eye that is not covered is safer than the one bandaged up. It seems to me that outside the patient's comfort, it is an advantage to leave the eye open. The flow of tears and the movement of the lids have a cleansing effect on the cornea and carry the germs into the tear-sack. I often cover up eyes thus injured principally because it makes the patient more comfortable, especially, as in many of these cases, where the pupil has been dilated with cocaine.

Dr. B. F. Travis, of Chattanooga: The first thing in that paper was the wearing of goggles. I do a great deal of industrial work in Chattanooga. We have a great many factories there, and we find it is very difficult to get men to wear goggles. I have advised and advised it, but they do not do it. The company advises it, and they don't care to, and they get foreign bodies. It has been spoken of here on both sides, pro and con. You have the small, slight injuries, then you have your more severe injuries. And I presume from this paper that it was not intended

that we should speak to punctured wounds, but merely injuries to the cornea.

You have the question of parensotomy. We all agree, I think, on trying to remove the foreign body with the removal of as little of the epithelium as possible, and then drench the eye. I am on both sides of this question, not like Dr. Savage, though I do not have them wear any flap, but the patient with a very severe injury and the eye very dirty, and before I can get his eye dressed he is out with a dirty pocket handkerchief, right from the factory, too. I think it is best to use a light bandage, a four-tail bandage, and make it very light, but to protect that man. The majority of them, though, I do not use any bandage at all, and I do like the gentleman over here, who spoke about instructing them about hot water. I am a great hand to tell them to bathe in hot water for ten or fifteen minutes, and I nearly always invariably give them a little anesthetic. There will be a little, more or less pain, and I use a boric solution of holocain, maybe Dr. Savage's preparation of a little camphorated tincture of opium, and let them go. But as far as my own experience of twenty-five years in Chattanooga, I have never had a severe injury from the removal of foreign bodies, but I have seen some of the most fearful. One man—Dr. Savage's remarks made me think of this man—he was working in a furniture factory. He had no foreign body in his eye at all—merely struck with a little knot falling from a piece of wood in sawing. He saw his doctor. His family doctor gave him something and led him to believe there was practically nothing the matter with him. He saw somebody else. I saw him about four or five days after the injury. The doctor brought him to me, and that whole cornea was in a mass of corruption, cupped and broken down. I said there is nothing to do for this man, only to enucleate. We had to enucleate the eye. I have just dismissed one with a foreign body from one of the factories, removed by one of their surgeons—by the way, a mighty good surgeon—in Chattanooga. I don't know how he dressed it, but in the second day he sent for me, with an awful bad ulcer. I fought that ulcer for a month, to relieve it. With a very slight scar he was in his office a day or two ago. But it shows you how important it is to dress these patients, and be very careful with them, and with the instructions to the men themselves how to take care of them. If you do not, you will have ulcers. But as for my own work, with a great deal of this work I do not remember ever to have had a bad ulcer, but I handle some with and some without dressings—most of them without dressings.

Dr. L. A. Yarbrough, Covington: In using hot water in the beginning to allay the pain and soothe the eye, and to hasten a certain amount of inflammation that is necessary for the natural

healing of the parts, how about the application of ice after the wound has become infected and the conjunctiva and the deeper tissues involved, as cold prevents the development of germ growth?

Dr. Geo. H. Price, Nashville: I think the main point in discussing injuries to the cornea is that a great deal depends upon the history of any particular case, and the history will reveal what you have got to contend with so far as the foreign body is concerned. There are foreign bodies which seem disastrous to the cornea, so far as infection is concerned, and there are foreign bodies which are of but little consequence when lodged upon the cornea. Shop injuries, unless they are exceedingly bad, are always good risks; the farm injuries are always bad from the beginning. Injuries by dead wood and decaying vegetable matter are serious from the outset, because there is evidently a fungus which is attached to the material which injures an eye, which becomes implanted upon the cornea and starts at once a disastrous inflammatory reaction which is going to result, according to my observation, in serious damage if not the loss of the eye. This is especially so if not seen immediately, and the surface cannot be thoroughly sterilized against that infection, and how that can be done we are not always able to say. If an injury is superficial, as a small particle upon a cornea, and is promptly seen, it can be removed without any serious consequences whatever, and the patient can be allowed to go. If it is within a few hours after the injury has occurred that you see the patient, the consequences are of but slight moment. If it becomes embedded and enters the second layer of the cornea, it is more serious—it hangs on and is more difficult to get away. If it passes through that and become attached to the substance of the cornea proper, you have a more serious corneal wound; the epithelial surface and Bowman's membrane are protective, and any injury outside of the corneal structure proper is not so serious, but when it begins to get into the cornea proper, you have a halo or white flag around the corneal wound, indicating beginning inflammation.

If it is a particle of copper, or tin, or something that does not react to the secretions of the eye itself, it may even penetrate the cornea, become embedded in the lens, and cause but slight reaction, and but slight disturbance, but if the foreign body striking the cornea is steel, or iron, and it has penetrated further than the external epithelial layer, it at once becomes a menace to that eye. Many men remove the foreign bodies from the cornea, but do not remove, in my opinion, one of the most serious things to contend with, the result of the foreign body sticking in the cornea or penetrating to the slightest degree, and that is, the chemical reaction of the steel or iron which produces an albuminate of iron that

must be removed. An injury to the cornea may produce complications within a few hours. Here is a strange thing, but to give the explanation of it, I am not quite able. A cut from glass in the cornea is almost sure to induce an iritis, inside of a few hours. I have had several cases of it. But when I remove from the cornea a particle of steel, or a particle of iron, I am always sure to see that the little cusp or disk of brown—what is that substance?—the brown albuminate—is removed, also, otherwise the patient is going to have an iritis the next day. I see a number of patients injured in the railroad service by cinder. They are minor and of little consequence, although I have seen eyes practically lost from cinder, but the cinder has been carried perhaps a week. But if I have an injury from steel, or iron, I know they are going to be serious unless I get that little cusp away. The injuries from the emery wheel are two in character. One is the emery itself itself, or corundum, which is purely negative. If the emery itself strikes the eye, and sticks, you remove it, and it leaves nothing. But the emery wheel is made up on a mesh of steel or iron wire, and in grinding it off, it is those little particles of steel or iron that stick; then you have a condition that is sure to give trouble. Unless the little particle is removed and the little cusp of rusty brown is removed, that will produce complications. My procedure is always one of routine. After some years of experience with a great many cases, I see that it is removed the first day. I am positively and absolutely certain that I am going to have that little cusp of rust, if the particle of steel or iron has been in the eye even as much as an hour or two, hence my great anxiety to remove it thoroughly when the patient is first seen. If any evidence of the rust is seen the next day, I remove it also, thus cleaning the wound and hastening recovery.

Dr. W. W. Hill (closing discussion): I believe the only issue taken in any statement I made in the paper was on the practice of bandaging the eye after removing the foreign body. While I do not make it an absolute rule to do this in my practice, I put it up to the patient, and inform him of the risk that he is running, and tell him that if he does not do this, that is at his own risk, so that it clears my skirts. While, as I said in my paper, there may be ninety per cent escape infection by not going to this trouble, still I feel better over it, and my conscience is better, and I sleep better, if I take all this care.

Now, as to the question that Dr. Yarborough asked, as to the application of ice. I do not approve of using ice in any injury of the cornea. I think it is indicated in inflammations of the conjunctiva, where the blood supply is very great and plentiful; but in the cornea, where the blood supply is almost nil, we want to stimulate the cir-

culatation in every way we can, and thus stimulate the process of repair.

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**CONGENITAL DIVERTICULAE OF THE  
INTESTINES: REPORT OF A CASE OF  
A TUMOR GROWING FROM THE TIP  
OF AN APPARENTLY CONGENI-  
TAL DIVERTICULUM IN THE  
LOWER SIGMOID REGION.\***

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By Wm. T. Black, M. D., F. A. C. S.,  
Memphis.

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The vitelline duct, which is attached to the ileum, should disappear between the sixth and seventh weeks of intrauterine life. At this time it should change from a tube to a cord, which in turn melts away, leaving the bowels free from its connection to the umbilicus. When it remains we have a diverticulum. Diverticulae are either congenital or acquired. This paper deals only with the congenital or inherited type.

A true diverticulum is the remains of the vitelline or omphalomesenteric duct—that is, its intra-abdominal portion. Lavata, in 1671, was probably the first to call attention to the diverticulum, and later Ruysch described it more accurately. It remained for Meckel, by whose name the diverticulum is called, to give to the world its true pathological and surgical significance. The acquired types have assumed their importance both from a pathological and a surgical viewpoint, and have been elaborated upon by many able writers, and will not be discussed in this report.

Meckel's diverticulae are estimated to be present in about two per cent of people. It varies in length from 1 to 20 cm. and may be found from 30 to 90 cm., the average distance being 100 cm. above the ileocecal valve. In the child the distance is less, where the yolk stalk is attached. In cases where the lower limb of the primitive intestinal loop has undergone excessive development, it may be found in the cecum or colon (Binnie's Surgery, 1917). It at times remains patent throughout, and there may be present fecal matter exuding from the umbilicus, but usual-

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\*Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



ly the distal end is closed and the proximal end open. They vary in size from a very small cord-like structure to one as large or even larger than the lumen of the gut. There may be smaller false diverticulae connected with a true diverticulum, which may be bulbous at its distal extremity and narrow at its intestinal end.

Both extremities may be occluded and patulous in the center. Sometimes there remains only a fibrous cord and at times only blood vessels. They usually arise from the convex side of the gut, but may spring from the mesenteric side and may have a mesentery of their own. Wellington says that in about one-third of the cases they are attached to the umbilicus or adherent to some other part of the anatomy.

A preoperative diagnosis of the presence of a diverticulum cannot be positively made. A probable diagnosis may be made in those with a fecal discharge at the umbilicus. A discharge of any kind at the umbilicus, with a sinus or growth present is suggestive. Especially is this true in children where the child is afflicted with gastro-intestinal symptoms. Right-sided abdominal pain which continues or follows the removal of the appendix, after a careful inspection of other organs, which are found to be normal, is suggestive to a certain extent, and if adhesions can be ruled out, of a diseased diverticulum. The x-ray may assist in a preoperative diagnosis.

Mumford estimates that 13 per cent of diverticulae become inflamed or diseased. The principal danger, then, lies in these 13 per cent of cases, for all know the frequent occurrence of intestinal obstruction when produced by diverticulae. In twenty-two cases at the St. Thomas Hospital from 1887 to 1908, 63.6 per cent died, the mortality being 1 per cent higher than from all other causes, including cancer. Hilgenreiner's report of one hundred and two collected cases in 1902 shows a mortality of 71.5 per cent. Murphy stated that 5 or 6 per cent of intestinal obstructions were due to this cause.

The majority of people who possess diverticulae are without symptoms. Diseased diverticulae will produce symptoms in proportion to the extent of the pathology present.

Symptoms simulating an acute or chronic appendix may be present, the symptoms of obstruction or symptoms due to growths which spring from them give the usual symptoms of such conditions.

The following patient came under my service at the Baptist Memorial Hospital, October, 1918:

Name of patient, Mrs. Mary S.; 59 years of age, white, female, American. Did housework and work in the field. Family history negative. Denies previous history of syphilis, cancer, tuberculosis, insanity, etc. Has had the usual diseases of childhood.

Past and Present History.—Patient married at the age of 14. Physical and mental appearance fair. The patient began four years ago to have pain in right iliac region, sharp and shooting in character. Was not accompanied by any gastro-intestinal disturbances. The pain subsided in about three weeks. Some time later she discovered a lump in her abdomen, which was movable but not accompanied by pain. Tumor did not disable patient at all, only causing a slight discomfort and constipation. Abdomen commenced to enlarge about two years ago, and has continued to enlarge ever since. Abdomen was largest on left side. Tumor seemed to stay one size for twelve or fifteen months, then began to enlarge rapidly with symptoms of bearing down pain in pelvis, backache, dyspnoea, etc.

Menstrual History.—Appearance of first menstruation at 14 years of age. Regular 28-day type, four or five days duration; quantity of flow normal. Menopause occurred at the age of 50.

Patient is the mother of eight children—oldest 44 years old, youngest 17. Labors were normal. Was not attended by a physician during any of her labors. One premature labor of eight months. No complication or sequelae followed any of her confinements. No leucorrhoea. Bowels constipated. Frequent micturition for past few months. Suffers from indigestion of late. Nervous symptoms negative. Previous treatment, medical.

Physical Examination.—Well developed, poorly nourished; lost several pounds in weight during the past few months. The skin

jaundiced and wrinkled. Eyes normal. Teeth bad; breath foul. Thoracic cavity negative. Blood pressure systolic, 155; diastolic, 110. Abdomen distended to about the size of a nine months' pregnancy. Tumor hard and irregular in outline, except on the upper and right side, which fluctuates on palpation. Flatness over entire abdomen, except tympanitic note over colon. No tenderness. Spleen and kidneys not palpable. Liver normal. Except for slight emaciation, extremities normal. Urinalysis negative.

Blood Count.—Leucocytes, 6,800; reds, 4,048,000; polys, 80 per cent; S. L., 12 per cent; L. L., 4 per cent; Eo., 2 per cent. Wasserman test negative.

Vaginal Examination.—General appearance of vulva normal. Slight leucorrheal discharge. Perineum negative. Cervix pushed up under pubic region. Uterus pushed forward. Appendages not palpable. Large mass present.

A preoperative diagnosis of either large subserous myomata with cystic degeneration or an ovarian tumor was made. Patient was operated on October 4, 1918. Ether anesthesia. Median abdominal incision was made from pubes extending up nearly to ensiform cartilage. Findings: Large irregular cauliflower-shaped tumor, filling up entire pelvic and abdominal cavities, with marked cystic degeneration. No free abdominal fluid was present. Weight of tumor, 4,260 grams.

There were two large cysts at the upper right portion, each about the size of a large grape fruit, filled with chocolate-colored fluid. The tumor was entirely free, not connected with any structure, except at its origin. However, in one place one cyst was adherent to the anterior abdominal parietal peritoneum, just below and to the right of the umbilicus. The adherence of the cyst to the peritoneum was loosened and the mass lifted out of the abdominal cavity. The origin of the tumor was from the tip end of the diverticulum. The diverticulum had its origin from the lower portion of the sigmoid (recto-sigmoid) region. It sprang from the convex side of the gut. There was no mesentery on the diverticulum. It was about 11 cm. in length and about the size of the little finger. The diverticulum was caught with two clamps and cut. The probe

was pushed through the diverticulum to the gut to confirm its character. A purse-string suture was passed around the gut end, and the stump was treated as a stump of an appendix is usually treated. We were surprised to find such an origin, as we expected to find the origin of the tumor coming either from the ovary or the uterus. There was not an adhesion to any abdominal or pelvic structure, except where the cyst was attached. The uterus and appendages were normal. This mass had every appearance of springing from only the endothelial side of the intestine (diverticulum). Particularly noticed the absence of large blood vessels running through the diverticulum, as one would expect to find in as large a tumor. There was a small mass in the hilum of the spleen. There was no evidence of metastasis in any other organ.

The following is the pathological report on the specimen sent by Dr. H. T. Brooks, professor of pathology at the University of Tennessee:

Cross-Specimen; Description.—The specimen as a whole would probably fill a one and one-half to two-gallon bucket.

Examination of External Surface.—The external surface showed many small and a few large papillary projections. Here and there were large and small fluctuating masses, indicating the presence of cysts. Everywhere the tumor had a markedly gelatinous appearance.

Examination of the Section Through the Tumor.—Sections through the tumor showed cysts of varying sizes, one holding a pint or more of fluid. The fluid was brownish in color. The contents of the cyst showed no mucin.

Histological Examination.—Microscopical examination of the six different areas of the tumor showed several layers of epithelial cells, with no indication of down growth into the stroma. The several layers of cells, however, point to a malignancy on the part of the tumor. The stroma everywhere showed extensive myxomatous changes and this accounts for the gelatinous appearance of the tumor. (It was my impression, at first sight of gross inspection that it was due to a mucus degeneration on the part of the epithelial cells. This, however, was incorrect.)

Diagnosis. — Malignant cyst-adenoma, the stroma of which has undergone an extensive myxomatous change.

The following is the report of the pathological laboratory of Dr. Wm. Krauss, Memphis:  
First Report:

Examination of specimen submitted shows bad fixation. Such tissue is apt to be autolytic and consequently indistinct. Two areas have been picked out. The most developed cells have the characteristic of the fibro-blasts from endothelia. The younger ones sometimes in islands are normal and rather small, but evidently purely endothelial cells. The stroma is myxoid. I regard it as myxoma, springing from the serosa and preserving some of the characteristics of endothelial origin.

This report was based on small sections of tumor sent to Dr. Krauss.

Second Report.—The following is the report upon the tumor mass submitted to me after I had reported on the sections made from smaller pieces:

The entire mass impregnated with formaldehyde weighed 1,420 grams—about three pounds. It is bluish white in color, translucent, very lobulated, with numerous fine cauliflower exuberances. Some of the warty masses are cystic. Some of the cysts are imperfectly formed, the tissues gradually merging into a mucoid material. The larger older cysts are smooth-walled with patches of cauliflower protruding into them. These contain clear serous fluid and remind one of papillary ovarian cystoma.

Microscopically the stroma is partly fibrous and partly mucoid with islands of proliferating endothelia, often seen to connect with spaces that have a very primitive structure and lined by round and oval cells with vesicular nuclei. Fixation, however, is not good. The covering of the entire polypoid mass is very scanty and shows thickening only in a few places. The stroma is the only active tissue and the blood supply is exceedingly scanty.

Diagnosis.—Fibro-mucous peritoneal polyp. Although the gross resemblance to an ovarian tumor is striking, there is nothing in the histology to suggest any ovarian origin.

(The above were specimens obtained by Dr. Krauss from about one-third of the tumor, which was sent to him.)

The following report was given by Dr. W. G. MacCallum, of the Johns Hopkins University:

The specimen appears to be to be a papillomatous growth composed of very loose and oedematous stroma, rather denser near the surface and forming large round papillary masses. It is in protected places covered with a layer of epithelium which is in places cylindrical, although usually cubical or flattened. In exposed places the epithelium is rubbed off and the superficial layer of the stroma appears as though the base-

ment membrane had been lifted off by a fluid. There was a wall on both sides of which the papillary masses seemed to project, but the sections do not show this; probably those cut deeper in the block will do so. I enclose three sections.

From the above reports the tumor is evidently potentially a malignant type.

The tumor was evidently in the stage of regression, which probably was due to a poor blood supply. There were no vessels of any size in the diverticulum and the growth probably got its principal sustenance from the peritoneal fluid. Unless the small mass in the hilum of the spleen was a coincidence, then one would naturally think the tumor was a malignant one and this a metastatic growth. I am unable to account for such a mass as this growing from only the outer coat of the diverticulum. If it was a malignant tumor, I am unable to find an exciting cause. It is improbable to suppose that peristalsis or the movements of the outer viscera could produce any irritation. It is possible that when the patient had the severe pain in her abdomen, four years ago, that she had a diverticulitis, or that an ulceration might have been produced from within, which extended to the outer portion of the diverticulum, or what probably occurred was a perforation. The formation of a malignant growth can at times be accounted for by the retention of hardened fecal matter, or concretions acting as a predisposing or exciting cause. The retention of dry fecal matter or foreign bodies in this location is favored by a constriction at the sigmoid-rectal portion. We have in the lower sigmoid, in the embryological stage a dilated or pouch-like condition present. This dilatation may continue in the adult as an embryonal defect, which might further assist in the retention of fecal matter. This dilatation might have been the source of the diverticulum. Strictures or growths of the rectum, hemorrhoids or any inflammatory process involving the rectum would naturally resist the proper expulsion of the intestinal contents. Too long retention of this fecal matter or concretions might, in a certain per cent of cases, produce an erosion or ulceration which might act as a starting point of a precancerous lesion. The same might apply to a diverticulum in this region.



In the case reported, however, there was no hardened fecal matter or foreign bodies present and the diverticulum and sigmoid were microscopically normal everywhere except at the attachment of the growth. The principal etiological factor can best be explained through an embryological condition or foetal rest, or transplantation of tissue from some other organ. Am unable to find in the literature at my disposal a description of a similar case. Doubtless, however, other cases have been observed and recorded of a like character. A congenital diverticulum is unusual in this portion of the gut and can only be accounted for through an error in the embryological development.

Bize, in 1904; Dive, in 1906; Denuee, in 1908, report cases of small pancreatic tissues growing from the tip end of Meckel's diverticulum.

Colmers, in 1906, published an article upon intestinal cysts and their treatment. He says: "Raesfield was the first to describe an enterocystoma and that he drew attention to the fact that it developed from a Meckel's diverticulum (Cullen).

Cowardine, Rimbach, Roth, Tideman, Colmers and others have reported cystic tumors connected to the remains of the omphalomesenteric structure. In Rimbach's case, the tumor was as large as a man's head and adhered to the omentum.

Most of the reported cases have been small tumors, usually cystic and connected with Meckel's diverticulum in the ileac portion of the intestinal tract or at the umbilicus. Mayo reports the rupture of a sigmoid diverticulum which was thought to be congenital in type, forming an abscess in the pelvis. Cases of carcinoma are reported where a diverticulum is involved secondarily by contiguity of tissue.

The treatment of an inherited diverticulum depends upon whether the organ is diseased, upon its location and upon its structure and size. All diseased diverticulae should be removed. All diverticulae when attached to some other structure at the distal end should be removed. Those with small proximal openings and all found in the large gut, where solid feces is found, should be removed. When the vitelline duct remains as a cord or set of

blood vessels, it should be excised. Large normal diverticulae discovered accidentally in the small intestine, "where we have only liquid feces," should be left alone, for the fear of increasing mortality.

Conclusion.—This tumor was connected only to the serosa side of the diverticulum. Potentially it was a malignant growth. A diverticulitis or perforation could be assigned as a predisposing or exciting cause, although it could be attributed to a foetal inclusion. This diverticulum had the characteristics of a congenital type, but it is possible for it to be of the acquired type. Unless one can palpate the uterus and ovaries a differential diagnosis cannot be made between a uterine myoma with a pedicle or with an ovarian tumor and a tumor growing from a diverticulum in the lower sigmoid region.

#### DISCUSSION OF PAPER OF DR. BLACK.

Dr. Eugene M. Holder, Memphis: This is a very unusual case, and the paper of Dr. Black should not go by without due consideration. I do not think in my whole surgical experience I have seen a case of Meckel's diverticulitis. The case is particularly interesting to me, and I should like to ask Dr. Black whether this might not have been an appendix epiploica. Meckel's diverticulum usually springs from the ileum between one and three feet from the ileocecal valve. I understand this was found away down in the pelvis from the sigmoid. Of course, you have an old epiploica from the ileum which will come off of the colon, and could not this have been an appendix epiploica instead of a Meckel's diverticulum? The growth of this tumor from the serosa surface, or the outer layer of the diverticulum or epiploica is still an unusual thing. His explanation that it might have been due to diverticulitis and ulceration and beginning cystic development there from a previous attack of diverticulitis probably is true. At any rate, I do not think I can remember seeing a similar case anywhere in the literature.

I would like to ask Dr. Black if there was involvement of the glands? If there was, he did not refer to it. Probably there was not. That is an important thing to the patient.

Dr. John L. Jelks, Memphis: This is one of the most remarkable cases I have ever heard reported. I have had twenty-five years' experience as a surgeon and have never seen or known that I was dealing with but one case of diverticulitis. In this one case of very high fistula I encountered a diverticulitis with perforation.

Dr. Black's case is certainly a very interesting

one, and I would like to get from Dr. Black a further report as to the future progress of the case.

Dr. Black (closing): The patient made an uninterrupted recovery. The remarkable part of it was the embryological condition of the gut. This diverticulum was not quite as large as this piece of chalk (indicating); there were no vessels running out into it, and the growth weighed eight and a half pounds. It has been suggested that it got its sustenance through the peritoneal fluids. Meckel's diverticulae usually occurs very near the ileocecal valve, say from 30 to 250 or more centimeters above the ileocecal valve, but where you have an overdevelopment of the primitive gut (the intra-abdominal portion of the omphalomesenteric structures) it may appear in the cecum or colon. We have normally dilatation or a pouch of the lower sigmoid in the fetus and this diverticulum may be a continuation of this pouch-like condition. In other words, we may look upon the case as a freak of nature. I have talked to a great many about the case and have written to different libraries for information, and so far have not been able to get any definite information whatever. As I stated in my paper, I do not believe there is another case on record like it. Men who have had a much larger experience than I say they do not recall having seen or read of such a case. According to the Surgeon-General's Library at Washington there is no similar case on record.

In regard to the question of Dr. Holder about the involvement of the glands, I will say there was a growth in the hilum of the spleen which might be a coincidence or might have been a metastasis, but there was no general glandular enlargement in the mesentery at all. The tumor was absolutely loose in the abdominal cavity except at its attachment to the tip of the end of the diverticulum. It was a large cauliflower-like mass with cystic degeneration, and we lifted it out as you would life a bullet out of a cavity.

## THE MORE COMMON PSYCHOSES.

By G. A. Hatcher, M. D.,

Assistant Superintendent Central Hospital,  
Nashville.

Practically everything in this paper can be found in text-books, but I hope to get the more salient features together in a way that will be of assistance to you in the diagnosis and prognosis of your mental cases.

I will take up the psychoses in order of frequency, as admitted to our hospital:

Dementia praecox is by far the most fre-

quent. Dementia praecox is not a good name, as it implies dementia in the young. Praecox refers to relatively early dementia, and not to youth. Dementia comes early in the course of the psychosis, but it may be very mild and last over a number of years, manifested, probably, only by indifference and change of personality. Over half of the praecox cases occur before the twenty-fifth year and the frequency gradually decreases up to sixty years or older. This psychosis is more likely to occur in those who as children were susceptible to convulsions and delirium in mild fevers, those with perverted sexual impulses, and also in those whose parents were psychopathic, queer, eccentric, seclusive or alcoholic. Four types are usually considered, though they often merge into one another, so that there is no marked line of demarkation and it is becoming more and more to be considered as just dementia praecox, not necessarily specifying the type. The four types considered are *simple*, *hebephrenic*, *catatonic* and *paranoid*.

Simple and hebephrenic constitute, approximately, 60 per cent; catatonic, 30 per cent, and paranoid, 10 per cent. The simple and hebephrenic are more closely allied than the other two. Hebephrenic, in a sense, is a more deep-seated form of the simple. The simple is most often made up of the no-account and "hobo" type of individual, generally without hallucinations and delusions. The hebephrenic shows a more definite psychosis, with fairly rapid dementia, early ideas of reference, marked hallucinations of hearing and excessive masturbation. The brain is gone, different parts of the body are interfered with and not functioning properly, and often parts of some organs are gone and other things substituted.

The catatonic is more acute in onset; often marked by excitement, with mannerisms, stereotyped movements, alternating with negativism, stupor, refusing to eat, and holding the limbs in any position they may be placed in.

Paranoid occurs in the brighter individuals, with late dementia or very slight dementia, extending over a long period of time, with little change. This type is manifested by ego-

tism, feeling of importance, and of being always prevented in some way from accomplishing some very important task; the failure is never the patient's fault, but usually not attributed to some one person, but to a clan or society. This type is usually dangerous.

But few of the simple type ever get in hospitals, as they are often not considered dangerous and get along, in a way, on the outside.

The hebephrenic is unfavorable, but sometimes they have remissions or cessations in the symptoms and are able to be at home and get along, in a way, for a year or two at a time, but they never get entirely well.

The catatonic is the most favorable for remissions and having periods in which they can resume their work and get along at home without conflicts, sometimes for several years.

The paranoids get progressively worse, very slowly, are a very dangerous type, and should always be kept in institutions. They are a type that fool anyone easily and it is sometimes hard to determine whether or not they have a definite psychosis.

Manic depressive insanity is the next most frequent admission that we have. This type of insanity is manifested by recurrences, without necessarily having mental deterioration. It also occurs most often before twenty-five years of age, but occurs, too, from ten to seventy years of age. We usually divide it into three types: Maniac, depressed and mixed. Some also have a stuporous and circular type, but here the stuporous and circular types are included in the mixed. The manic has three cardinal symptoms: Flight of ideas, psychomotor activity, and emotional exaltation. The three symptoms may be in any degree of severity; either one may predominate. The flight of ideas continually changes from one subject to another; see everything about them; can't keep their attention on one thing. They catch words from different conversations, comment on various things seen and show a tendency to rhyming and clang association. This rhyming and clang association is not seen in the excitement of catatonic praecox. Most all of the other things are, but not in just the way as in the excitement of manic depressive insanity. Manic excitement is based on external stimuli; catatonic excitement

on internal stimuli. The manic, after recovery, often remembers what took place during his excitement, and is often mortified at the things he did; says he knew what he was doing, but it was impossible to control himself.

Psychomotor activity is manifested by continually moving, jumping, playing, tearing clothing, breaking up furniture, punching out window lights, etc., and these patients are often too busy to eat or sleep. The praecox's refusal to eat is apparently due to indifference.

Emotional exaltation is manifested by boisterous laughter, feeling of importance, and bossy disposition.

The depressed phase also has three cardinal symptoms, directly opposite to the manic: First, difficulty of thinking; second, psychomotor retardation; third, emotional depression. Difficulty of thinking is shown by the slow movements, slow speech in a low tone of voice; delay in answering questions, though they may finally do so; rarely finish any task undertaken; consciousness is usually clear and they are orientated; appearance, dejected and sad; the delusions are self-accusatory and hypochondriacal—they are not only responsible for their trouble, but for all the trouble in the world; some think that their bones are broken, bowels are gone, and body all dead except the heart, and show apprehension to these delusions. Hebephrenic praecoxes sometimes have these delusions, but they are not apprehensive as to the outcome, and are not disturbed by them. The depressed cases may go into a stupor, have to be fed, and all wants attended to, but the stupor is never so deep as the catatonic stupor. The mixed type is manifested by part of the symptoms of both the former types, but none are clear-cut and definite.

Probably involutional melancholia should come next, though I believe we have more cases of infection exhaustive type. The involutional melancholia occurs in women between forty and fifty, and in men five or ten years older. These cases most all show some senile changes—gray hair and beginning arteriosclerosis, and may be classed as presenile depression. It is generally believed now that



this condition is brought about by an unbalanced secretion of the ductless glands. These cases usually have several months of prodromals, as headache, vertigo, insomnia, irritability, and weakened physical condition. This condition gradually grows worse until they become apprehensive, depressed, and develop delusions of sins they have committed—unpardonable sins, souls lost; they are often suicidal and never safe to be left alone. About half of these cases recover from their psychosis, in four to six or eight months, but still retain their senile changes. Some authorities claim that involuntional melancholia is nothing more than a depressed phase of manic depressive insanity, and if a clear history could be obtained, we would always find some mental disturbances previous to this time. We have not always found it so, and still use this diagnosis.

Infective exhaustive psychosis occurs as a result of acute diseases—as pneumonia, erysipelas, typhoid, influenza, loss of blood, emotional shock, mental strain or overwork while in a poor physical condition, and, as Dr. Cotton, of Trenton, N. J., is claiming, focal infections in individuals with susceptible central nervous system and neurotic make-up. This, for convenience, is divided into three types: Collapse delirium, acute confusional insanity, and chronic nervous exhaustion.

Collapse delirium is the simple delirium seen in any acute disease.

Acute confusional insanity usually begins by the patient complaining of numbness and confusion; they are forgetful, becomes anxious and restless, soon becomes disorientated and hallucinated, sees all imaginable things; lives over past experiences—and may try to act them—and difficult to keep in bed. These develop the idea, often, that their home is ruined; that they hear their children calling them, or that they are being burned or murdered in some horrible way. They may have times when they seem to realize some things that are happening about them, but it is only for a short time. They sleep hardly at all and eat very little. This condition usually lasts about a week or two, but fluctuates until complete recovery, which is sometimes two or three months, or more, and their mental con-

dition fluctuates with their physical. If they are in very bad physical condition, the disease is very likely to be fatal.

The chronic nervous, or acquired neurasthenia: This type depends more than the above on the make-up of the individual. Causes commonly considered are excessive mental work, with worry and responsibility, together with insufficient exercise and relaxation, which is manifested by patient being easily fatigued, loss of sleep, peevish, fault-finding; little troubles worry them; have a keen insight; exaggerate all their troubles, and gradually get so no one can live with them. This type rarely gets into an institution of our kind, but when they do they seem to get along better than on the outside, probably due to lack of sympathetic attention paid them.

Next in order are the toxic psychoses. Under this heading are included all alcoholic, drug and chemical psychoses, all of which usually clear up when the cause is removed. Occasionally we get a chronic alcoholic, more apt to be of a paranoid trend. Delusions are systematized, and simulate true paranoia. Some psychiatrists claim that we have no true paranoias; that most of our so-called paranoias can be classified as paranoid praecox. If we have any paranoias they are those people who have a definite system of delusions. All delusions center around one thing. This type of individual is dangerous and he should never be at large.

About the next in frequency is paresis. The typical paretic is easily recognized, but if we hope to be of any benefit to these people we should recognize the trouble before they become typical. A careful neurological examination will nearly always demonstrate this condition before mental symptoms appear.

The next is constitutional psychopaths, who have shown some episode—it may be of a manic type, or simulating a praecox make-up; more often, though, they do not have any psychosis at all. Under this heading are included those with criminal tendencies, inadequate personality, cracks, etc.—all ill-balanced individuals who lack capacity for work in any one direction.

I have said nothing about pellegra, for the reason that this condition is usually recognized before any mental symptoms develop. After the mental symptoms have been definitely established, we have found the prognosis unfavorable. This condition is included by some under the infective exhaustive psychosis. We classify it to itself as pellagra with psychosis.

Nor have I said anything about the senile psychoses, traumatic psychoses nor epileptic psychoses, as these conditions are not frequent admissions to our institution and are fairly easily diagnosed.

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### CAMPHORATED OIL TUMORS.

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An article based on a series of cases recently observed in increasing numbers, in which tumors resulted from the injection of camphorated oil, is published by W. H. Mook and W. G. Wander, St. Louis (Journal A. M. A., Nov. 1, 1919). They describe a typical case of a woman who, while suffering from influenza pneumonia, had received about eight injections of camphorated oil in her arms. Six months later she consulted her physician about the "lumps" on her arm, which were increasing in size, and now, nine months after the injections, the anterior, outer and posterior portions of the right arm are a mottled bluish red, swollen, hard and much infiltrated. The mass is somewhat lobulated and quite distinct from the normal condition. The left arm is similarly affected but to a much less degree. In the first case the authors observed, a piece of inflammatory tumor was excised and its character led them to believe that the tumors belong to the sarcoid class. But in a later case with practically no inflammation a piece was excised which revealed their true nature, and since their cause has been learned they should no longer be classed with that group. "An analysis of the cases shows a series of six patients who developed tumors in the arms, some also in the thighs, all with practically the same history and lesions of

the same characteristics—namely, the appearance of deep tumors, following the injection of camphorated oil for a previous severe illness, situated generally on the outer aspects of the lower third of one or both arms and occasionally in shoulder, thighs or breasts. They are of months' duration, and if not inflamed they have a doughy or concrete-like infiltration that may be from the size of a walnut to the size of an orange, and are usually lobulated. The size of the tumor depends on the amount of oil injected and the extent of the individual reaction. Instead of being rounded in outline, they are linear, with definite, sharp angles marking them off from the normal connective muscular tissue which is adjacent. Beadlike infiltrations of the same nature, but smaller, may be traced toward the axilla or around the periphery, simulating the metastasis of a malignant growth along lymph channels. The skin surface may or may not be elevated or discolored, and some tumors are discoverable only on palpation. They are practically always deep in the muscle or connective tissue. They may or may not be painful, or even tender. The early discomfort is generally slight." If the tumors are inflamed the process is of long duration, and the color will be deeper in accordance with the amount of inflammation. The temperature will be higher than that of surrounding tissue. Necrosis has not been observed, such as occurs in paraffin tumors, but from lack of sufficient lapse of time the final end-results cannot be told. Thus far, it appears that liquid petrolatum may remain as an inert foreign body in tissue, but the inflammatory tumors that may result are more or less serious. The use of camphorated oil should be stopped until researches show that it can be made innocuous or so it can be quickly absorbed without bad effects. There are other possibilities of bad results when used as a vehicle for mercurials such as calomel and salicylate in treatment of syphilis. The authors conclude that it is dangerous to use liquid petrolatum as a vehicle to be given intravenously. This has been proved with regard to paraffin, and the tumors from camphorated oil are also confirmatory. The article is illustrated.

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

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## EDITORIALS

### WE ARE BEHIND.

We have fallen into the habit of charging up every unfavorable development to the war or to the "flu" epidemic. Thus we have condoned and have forgiven many things, some of which, in all probability, the war nor the epidemic had no more to do with than the man in the moon. The time has come, however, when certain things which men should do but do not do cannot be excused on the ground of the upset of normal conditions by war and pestilence which have ceased to operate.

There should be at least 2,000 names on the membership roll of the Tennessee State Medical Association, but there are only 1,578. There should be an organized medical society in about ninety of the ninety-six counties of Tennessee, but there are only sixty-six counties represented in the Association, and three of these have a combination organization. Every county medical society should meet at least once every two months, no matter how remote the county, but as a matter of fact several county societies have not had any meeting at all for a long, long time. Every reputable physician should belong to the medical society of his county because it is his simple duty, but there are many Tennessee doctors holding membership because they are thereby able to secure certain privileges which would not otherwise be theirs. Every member of a medical society should attend regularly the meetings, but we have a large number of members who never attend unless there is to be a "feed" or unless some unusual condition arises to draw them.

There are several counties in which every desirable man is enrolled as a member of the county medical society, but there are far more where not more than 60 per cent of the available men hold membership. Shelby County is the only one of the five most populous counties in the state which makes a first-class showing with respect to membership. The Memphis and Shelby County Medical Society has reported 241 members for the year 1919. The Nashville Academy of Medicine and Davidson County Medical Society has 159 members, when there should be 200. The Chattanooga Academy of Medicine and Hamilton County Medical Society has 123 members reported, and while this is a better showing than has ever been made, this organization should have at least twenty or thirty more members. The Knox County Medical Society has reported 123 members, too, and has thereby made a record, but there are some good men in Knox county not listed.

The Journal is struggling for its life. There are many able men in the Association who could easily contribute splendid articles to the Journal and who would thereby render a most helpful service, but to get them to do that thing is harder than it would be to get blood from a turnip. Within the last two weeks letters have gone from this office to more than a dozen members who are known to have on hand scientific papers which have been read before one or more medical societies. Up to this time we have heard from two of the gentlemen to whom these letters went.

Every man in the Association should pay the medical defense assessment, but considerably less than half our members have done so.

The war is over. The "flu" has not come back. The miners' strike has been called off. The Bolsheviki are losing out. Hogs and cattle are both going up. The corn crop is saved. Cotton is bringing the highest price ever. The Prince of Wales and the King of Belgium have gone home. The world is still turning and is going to keep right on turning. There is not one reason why the medical societies in this state should not resume normal activities and again take up the work that should be done.



## MALARIA IN TENNESSEE.

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The Tennessee State Board of Health has long labored under the impression that malaria is a very prevalent disease in certain counties in the state. All the conditions which sanitarians believe to be favorable for the production and continuance of malaria are to be found in these counties, including folks infected, folks to be infected, mosquitoes to carry infection, an abundance of breeding places for the mosquitoes, a climate which favors the continued life-hold of mosquitoes, housing conditions altogether favorable to mosquito visitation, nearness to other states which frankly admit a very high malaria incidence, and everything else that it takes to make malaria. In addition to all that, certain death certificates, which, by the way, are rather carefully studied in the office of the State Board of Health, bear with lamentable frequency "malaria," "malarial fever," or "pernicious malaria," as cause of death.

In view of these things above set out, it was astonishing indeed to the Secretary of the State Board of Health when the Board had perfected arrangements whereby some intensive work for malaria control might be undertaken in the state, when he was told by numerous persons in those certain counties, including some of the very physicians who had signed the death certificates above referred to, that "We have very little malaria in our town." This statement was repeated so often that the befuddled investigator was about to conclude that he had been misinformed as to what it takes to have malaria, and that he had misread all those death certificates, but a report which has just been made by a visiting nurse attached to one of the field units of the Board has made him decide that he was right in the first place. This nurse reports visits to some forty-odd families in one community. Of the members of these families, just 133 confess to having had what their doctors told them was malaria!

It is surprising to note the variance in opinion, or rather in expression of opinion, between two physicians in a community, each of the two an able man with large experience. In one town one of the busiest physicians stated that there was little malaria in the

town, but lots of it in the country; a second physician estimated the number of cases annually in that same town as from 400 to 600. Both of them have signed death certificates on file with malaria as the assigned cause of death. One death from malaria means a whole lot of cases of that disease.

The State Board of Health, unfortunately, has no accurate means for estimating the prevalence of malaria, nor, for that matter, of any other communicable disease. Malaria is not now a "reportable" disease, but if it were, it is not probable that the Board of Health would be in any better position for making an estimate of its prevalence, because the physicians of the state carelessly or wilfully ignore the law with respect to the reporting of communicable diseases.

Of course malaria is widespread in a number of our counties. There can be no sort of doubt about it. Knowing that to be a fact, the State Board of Health is anxious to take advantage of the opportunity it now has, through the gracious kindness of the United States Public Health Service and the International Health Board, to do something to control this most health-destroying and efficiency-reducing disease in areas of a size to permit the application of tested methods of malaria prevention. Any town in the state in which malaria is prevalent enough to justify the necessary expense can secure a malaria survey and intensive control work next spring if such town will co-operate in the movement.

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## TENNESSEE ANTI-TUBERCULOSIS ASSOCIATION.

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Aiming at the development of the community spirit, through the establishment of public health nurses and the enrolling of the children of the state in an organization to fight for better health of the community, is one of the big features of the next year's program of the Tennessee Anti-Tuberculosis Association. At the present time the society has four nurses who are combing the state with exhibits and who are not only canvassing small cities and towns, but are also mounting on horseback and penetrating into the little mountain towns with their message of health.

Figures just compiled by the State Board of Health show that 4,551 people died from tuberculosis in Tennessee in 1918. Rigid investigation of health conditions in various cities have shown that for every person who dies, eight are left seriously infected with the scourge, so that in Tennessee more than 35,000 are sick.

When Governor Roberts was confronted with this report and the program of the Tennessee Anti-Tuberculosis Association, he accepted the chairmanship of the December drive of the Society for funds to carry on this work during the coming year. Before thus aiding the Society, Governor Roberts made sure that the State Boards of Health, Charities and Education endorsed its work, and finding that they did, he threw himself into this movement to make Tennessee the healthiest state in the Union.

At present there are too few sanatoria where the disease can be treated. Traveling medical clinics are a necessity. There are not enough open-air schools where infected children can be segregated and cured. More public health nurses are required to arouse the communities to the peril of this plague. And since the program of the Tennessee Anti-Tuberculosis Association includes all these things, we are glad to indorse it and urge public-minded citizens to work in this campaign, not only because it insures the betterment of their neighbors' health, but it guarantees good health to themselves. This is one of the first real local movements this state has had for many months, and it must succeed.

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### DIPHTHERIA AND SCARLET FEVER.

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Diphtheria and scarlet fever are at this time unusually prevalent, and from reports received from many places it seems that carelessness nothing short of criminal is being displayed with respect to measures which should be put into effect for the prevention of the spread of these two diseases. The doctor who does not carefully instruct the parents and nurses in charge of children with any communicable disease is unworthy and not entitled to the respect of decent men. The doctor who fails to report his cases to the proper health officer is a law-breaker and an enemy

to the welfare of his community and his state. The health officer who fails to see to it that proper precautions for guarding against the spread of contagious disease in every case brought to his attention is false to his obligations. The parents of children sick with dangerous communicable disease who permit children to expose others to their infection are in no way worthy of the respect of their neighbors nor of the protection of our government.

Every case of known diphtheria or of suspected diphtheria should be isolated—strictly isolated—at once, and every case in which a positive diagnosis is made should be kept in rigid quarantine until permission is given by the health officer having jurisdiction for the quarantine to be terminated. This also applies to scarlet fever.

Wherever possible a diagnosis of diphtheria should be confirmed by laboratory examination, but the administration of antitoxin should not wait on laboratory confirmation where the clinical evidence is at all convincing. It is well, however, to confirm any clinical diagnosis by laboratory findings whenever this can be done, not only because such procedure is proper scientific practice, but also because protection is thus furnished the patient and the physician.

Many of the cases of diphtheria now occurring are atypical. Numerous cases have been reported recently with little membrane, or none, in which microscopic findings have made or confirmed diagnoses; unusually high temperatures and erratic temperature curves are to be noted in many reports; and other unusual conditions arising in the course of the disease have been reported from various quarters. The atypical case of diphtheria is the most dangerous case. If certain symptoms and signs which the ordinary case presents are wanting, there is, naturally, a tendency to neglect the employment of accurate diagnostic methods and the very important preventive measures, as well as the proper curative measures. When diphtheria is as prevalent as it now is in many places in the state, **every** sore throat should be suspected as diphtheritic. And no examination of any sick child is complete until the throat has been carefully examined.

Once more we would remind the physician that the Squibb-State Board of Health antitoxin can be secured at prices well within the reach of the average citizen. And, also, we would urge that they should take full advantage of the laboratory service of the State Board of Health and of the several city departments of health which maintain laboratories.

Scarlet fever is also unusually prevalent in Tennessee at this time, and, from some reports, is increasing in virulence. Because it has not been very fatal for some years, the people are inclined to look lightly on scarlet fever and to disregard almost entirely the precautions which always should be taken to prevent its spread. We fear that some physicians, even, are also inclined the same way. It is to be hoped that a fatal and widespread epidemic of scarlet fever will not be necessary to convince our people of the desirability of isolation and quarantine for scarlet fever control. The parents of children with scarlet fever should have impressed upon their minds the contagiousness and the possible crippling effects of this disease. Health officers should do whatever can be done under the law to enforce quarantine of any and every scarlet fever case.

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### DISCHARGE OF VENEREAL DISEASE CARRIERS.

Due to the numerous requests which have been made to the Division of Venereal Diseases of the Tennessee State Board of Health for the Government standards for the discharge of carriers of venereal diseases, the following instructions are given in order that a routine may be followed which will incur no injustice to patients and relieve the physician of undue responsibility.

While it may appear to be elementary, it should be remembered that the discharge of patients as non-infectious and the discharge of patients as cured should remain separate and distinct, and are so considered in this article.

#### Syphilis.

From a public point of view, a person infected with syphilis may be considered to be free from danger of transmitting the infec-

tion to others and may be so reported when, after a course of treatment, a complete clinical examination, in which special attention is paid to the thorough exploration of the skin and mucous membranes, particularly those of the orifices of the respiratory, gastrointestinal and genito-urinary tracts, shows the absence of any area from which infectious matter can be disseminated.

When a patient is discharged as non-infectious following an examination according to the above, he must, of course, be plainly advised that his disease is not cured, and although he is apparently non-infectious at the time, he may subsequently become infectious to others through contact, and that the disease will probably be transmitted to his offspring until he is actually cured by a proper course of treatment carried on for a definite period. He should, therefore, be warned to remain under observation until such a time as complete cure is effected.

In the light of our present knowledge the minimum requirements for cure should be the following: No case should be considered cured for at least one year after the termination of treatment and unless the following conditions have been satisfied: (a) No treatment for one year, during which time there have been no symptoms, no positive and several negative Wassermann reactions; (b) a negative provocative Wassermann reaction; (c) a negative spinal fluid examination; (d) a complete negative physical examination, having special reference to the nervous and circulatory system; (e) a luetin test may also be included.

#### Gonorrhea.

(Males.)

Before discharging cases as non-infectious, the following four requirements must be met:

1. Freedom of discharge.
2. Clear urine; no shreds.
3. The pus expressed from the urethra by prostatic massage must be negative for gonococci on four successive examinations at intervals of one week.
4. After dilation of the urethra by passage of a full-sized sound, the resulting inflammatory discharge must be negative for gonococci.



## (Females.)

1. No urethral or vaginal discharge.
2. Two successive negative examinations for gonococci of secretions of the urethra vagina and the cervix, with interval of forty-eight hours and repeated on four successive weeks.

(This rule is laid down as the best practical method at our disposal at present, but it is fully realized that such negative findings may not in every instance be conclusive as to the freedom of infection, and the patient should be requested to return at frequent intervals for subsequent examinations.)

In the discharge of cases as cured, it is well, in addition to the above, to obtain at least one negative complement fixation test, for gonorrhea.

3. Technique for procuring smears from the cervix and urethra: Slides should be prepared from the urethra and cervix as well as the secretions which may be expressed from Skene's and Bartholin's glands. In preparing urethral slides the finger should be inserted in the vagina and expression made on the floor of the urethra from within outward, the cotton-tipped probe being then introduced into the meatus. In procuring smears from the cervix a vaginal speculum should be introduced and the cervix well exposed. All secretions should be mopped away from the externals before taking the smear. After the cervix is well dried, a probe, tightly wound with cotton, should be inserted in the cervical canal and rotated several times. It is exceedingly important that the secretion from the cervix shall be in reality cervical secretion and not mucus or pus from the vagina. It is advised that two or three slides be prepared from both urethra and cervix.—II.

### ANOTHER LOCATION.

One of the good members of the Tennessee State Medical Association advises the Journal that he wishes to dispose of his holdings at his present location. The gentleman states that he has a good practice—a country practice—and that he will sell his home and an automobile to any good doctor who will pay him \$2,500 for them. He wishes to have a

good man succeed him in order that the people among whom he has practiced may have the benefit of the services of a competent physician.

All inquiries addressed to the Journal will be promptly forwarded.

### THE POLK COUNTY MEDICAL SOCIETY.

On November 7, 1919, a letter came to the office of the Tennessee Medical Association from Dr. F. O. Geisler, Secretary of the Polk County Medical Society, with an enclosure of \$20 in payment of membership dues for 1920 for the following members: Drs. L. E. Kimsey, W. W. Kimsey, F. M. Kimsey, A. J. Guinn, F. O. Geisler, E. M. Akin, A. W. Lewis, W. Y. Gilliam, T. J. Hicks and C. W. Strauss. Polk County is always one of the first to make reports, and no complaint has ever come from any member of that county society to the effect that dues had been paid to the County Secretary but that no recognition had been made of membership in the State Association.

The officers of the Polk County Medical Society for 1920 are: President, Dr. F. M. Kimsey; vice-president, Dr. W. Y. Gilliam; secretary-treasurer, Dr. F. O. Geisler; censor, Dr. A. W. Lewis; delegate to Tennessee State Medical Association, Dr. T. J. Hicks.

### A BRANCH LABORATORY IN MEMPHIS.

The Tennessee State Board of Health has perfected arrangements for the establishment of a branch laboratory at Memphis. Dr. A. W. Sweet, Professor of Bacteriology in the School of Medicine of the University of Tennessee, will be the director.

Unfortunately it has been impossible to secure the necessary equipment to put this laboratory into operation as soon as it had been hoped for, but at the earliest possible time it will be ready to serve the physicians of West Tennessee, who can send their specimens for examination to Memphis to better advantage than to Nashville.

All West Tennessee doctors will be notified when the Memphis branch laboratory is ready.

## A GREAT MEDICAL JOURNAL.

Take in hand the Journal of the American Medical Association for November 15, 1919. Spend thirty to forty minutes in just looking it over, and see how many items of importance and interest will arrest your attention. That is an average number of a greatly weekly medical journal. When you have given forty interesting minutes to its casual examination, from which you can but be greatly benefited, you can then put it by until time can be had for careful reading and study of its wealth of scientific material.

The old "A. M. A." is a great journal, and every progressive doctor should have it.

## NOTES AND COMMENT

The practice of midwifery is having its changes as the world moves along. Notable among the modifications are those resulting from the discovery of pituitrin. No obstetrician would feel that he was ready to attend a case of labor unless his bag contained a few ampoules of this most wonderful drug. Many cases can be aided and labor shortened by the assistance rendered through manual dilatation of the cervix. In considering this procedure we must be sure that labor is well established, though dilatation is both very slow and difficult. It is then that by the judicious use of chloroform we can help dilatation by the fingers used to stretch the cervix, according to the method of Harris, and then when the cervix will permit give pituitrin and shortly terminate labor. After the observation of many cases I am satisfied that there is no more danger of cervical or perineal tears and that the convalescence due to a shortened period of pulling and dragging on the pelvic contents is both satisfactory and rapid.—W.

In the advertising section of this issue an announcement is made by the Division of Venereal Diseases of the Tennessee State Board of Health that a number of manuals of treatment of the venereal diseases has been obtained for the free distribution to the physicians of the State.

This manual is the approved Government edition, originally prepared under the direction of the Surgeon-General of the Army for the use of Medical Officers, revised for the use of civilian physicians with the addition of chapters on the treatment of gonorrhea in women.

This offer presents an exceptional opportunity for physicians to avail themselves of the latest approved methods of diagnosis and treatment of venereal diseases, and it is believed that every progressive physician will avail himself of this extraordinary opportunity.

## MISCELLANEOUS

### KEEP THE HOME FIRES BURNING.

Before the war the United States was dependent on foreign sources, chiefly German, for supplies of chemicals, dyestuffs, drugs, optical glass, chemical porcelain, surgical instruments, and scientific instruments of several sorts. Until importations stopped, we did not fully realize our helplessness and weakness. Now we know and are resolved to make, at home, all the things which, before August, 1914, we have to have from Germany or go without. As Secretary of Commerce Redfield says, "We should never again find ourselves in the position that developed in the early part of the war, where, needing many things, we found ourselves making almost none."

The making of medicinal chemicals is an essential industry both in peace and war. The United States has the materials and the scientific knowledge, the equipment and the capacity to compete with the best medicinal products of foreign manufacture.

The United States Federal Trade Commission and the Chemical Foundation are making it possible for American manufacturing chemists to produce, in this country, those products which, until the war, were controlled in Germany.

Among these products are barbital, introduced as veronal; procaine, introduced as novocaine, and cinchopen, introduced as atophan.

The Abbott Laboratories of Chicago has done splendid pioneer work in producing these and other products used by the medical profession and hospitals. If made worth while, they can always find the fuel to keep the home fires burning.

Booklet giving indications for and dosage of einchopen will be sent on request to the Abbott Laboratories, Chicago.

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### THE CONCIL ON PHARMACY AND CHEMISTRY.

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The profession should recognize that the most important factor in the clearing up of the advertising pages of medical journals has been the Council on Pharmacy and Chemistry of the American Medical Association. The Council has been criticised both by the manufacturer and the profession, but it has gone on doing the work for which it was created. Sometimes the practitioner feels that his clinical experience justifies the use of a preparation which the Council has not found reason to accept. While apparent clinical results may be misinterpreted, the carefully conducted examinations of the Council are likely to be definite and dependable. We are becoming more and more convinced of the unreliability of reports of clinical use by physicians. Practitioners should avail themselves of the Council's investigations by frequent reference to the reports of the Council. If they would keep on hand a copy of New and Nonofficial Remedies for ready reference and prescribe only of the new preparations those that have been accepted by the Council, they would aid materially in the establishment of a scientific and reliable therapeutics.—*Journal Kansas Medical Society*, August, 1919, p. 193.

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### S. S. S.

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The State of Louisiana has a law prohibiting the sale of venereal disease remedies, except on the written prescription of a licensed physician. In May of this year the Bureau of Venereal Diseases of the Louisiana State Board of Health notified the druggists of Louisiana that the sale of "S. S. S." (Swift's Syphilitic Specific, or "Swift's Sure Specific") would meet with the same law en-

forcement measures as were being waged against any venereal disease nostrum. The result of this notice was a letter sent to various drug stores of Louisiana by the sales manager of the Swift Specific Company declaring that "S. S. S." is not recommended or advertised as a venereal medicine. A few years ago "S. S. S." was boldly heralded in newspaper advertisements as a "cure" for syphilis.—*Journal A. M. A.*, Aug. 30, 1919, p. 707.

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### THE POISON APPLE.

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Our grandparents thought that the tomato was poisonous, and called it "the poison apple." They were also under the impression that tuberculosis was incurable, and called it "consumption," from the fact that it consumed those who contracted it.

Today we know that the tomato is an extremely succulent vegetable, but everybody does not know that tuberculosis is not only preventable and controllable, but that it is also curable. And this latter truth is the message that the Tennessee Anti-Tuberculosis Association is bringing home to thousands of people in this state.

Already, as a direct result of the efforts of this society, hospitals have been erected that contain 300 beds for the care of tubercular patients and institutions containing 200 more beds are under construction. Cities and towns are boosting for fresh air camps and open air schools, and the way is being opened to make Tennessee the healthiest state in the Union.

When one realizes that all this work has been accomplished through the sale of those little Red Cross Christmas seals which we attach to our letters and packages each Christmas, the fact is brought home that this work must continue. This year the campaign to sell the seals and urge subscriptions will be held from the 1st to the 10th of December.

Seeing the need of more health work, and continuance of work now being accomplished, the campaign has been endorsed by Governor A. H. Roberts, Colonel Alvin C. York, and a host of other prominent Tennesseans. This health work must go on, so enlist in the local anti-tuberculosis movement.



## HOSPITALS FOR CONTAGIOUS DISEASES.

The general attitude toward hospitals for contagious diseases seems to be undergoing a gradual evolution. We are getting away from the idea that such hospitals are "pest houses" and "necessary evils," whose chief function is to serve as a place of confinement for persons who might endanger the public. We are coming to look on them more as places where sick persons may secure needed care, which would not be possible in their homes, as is the case with noncontagious medical and surgical cases in a general hospital. Usually conditions that make impossible proper isolation at home also preclude suitable medical and nursing care there. Hospitals for contagious diseases are specially designed for those with very limited means and for those living in hotels, boarding and rooming houses. The value of hospitals as a means of eradicating contagious diseases through isolation has made a strong appeal to sanitarians everywhere. However, experience in England and in this country has led such authorities as Newsholme, Chapin and others to conclude that the hospitalization of persons with contagious disease has failed to reduce their incidence material. Chapin<sup>1</sup> says:

Hospitals are useful for protecting the family, for checking outbreaks in institutions, for receiving cases from lodging houses and hotels, for furnishing better medical service, and for relieving the overworked housewife in the families of the poor. It is an unnecessary expense to provide hospital accommodations for all cases of scarlet fever and diphtheria, or for 90 per cent, or even 80 per cent. That half or two-thirds of the cases of these diseases can, for all practical purposes, be equally well cared for at home, is not unlikely.

In a hospital for contagious diseases, an occasional instance of crossed infection will occur even though every human effort is made to avoid it. This will be always one reason for home isolation and treatment, whenever they can be carried out satisfactorily.

In view of these facts, the statement of Stokes<sup>2</sup> in his interesting discussion of the organization and methods of contagious disease services, that a hospital for contagious diseases is, like the police, a necessary evil

whose principal justification is the convenience and safety of the well public, is only partly true. The ancient idea that a hospital for contagious disease is a "pest house" and a source of danger to those living near it has largely influenced the location of such institutions in a community. Abundant experience has shown that the same considerations should determine a convenient and central location for a hospital for contagious diseases as for any hospital for acute illness. An intimate connection with a general hospital is economical from an administrative and operative standpoint, and except when the contagious disease hospital is very large, it may properly be located in one building of a general hospital group. Such a location enables the patients in emergencies and complications to benefit by the services of specialists, and has a tendency to raise the level of the character of the medical work in the hospital. In contrast to this, a hospital for contagious diseases that is situated in an isolated place, near the edge of a large city, operates under very serious disadvantages, both from an economic and a scientific standpoint. Hospitals for contagious diseases were formerly constructed on the same principles as general hospitals, and were often brought into disrepute by the frequency with which a patient entering with one disease contracted others in the institution.

Richardson<sup>3</sup> recently presented an able discussion of the construction of modern isolation hospitals. In efforts to combat mixed infections, the barrier and cubicle systems were introduced and are useful in old buildings with large rooms, but should not find a place in a building newly constructed at this time. The ideal hospital for contagious diseases consists of small rooms that accommodate single patients. This is insisted on by those who, like Richardson<sup>3</sup> and Wilson,<sup>4</sup> have had practical experience in hospitals for these diseases. The initial cost of providing toilet and bath tub for each room is more than offset by the advantage from the use of baths in treating patients and by the saving in work required of nurses and attendants. Each room should be supplied with a lavatory with mixed hot and cold water controlled by the foot. The liberal provision of windows and the intro-

duction of glass into partitions prevents a building constructed in this manner from being unduly dark. With single rooms, cross infections can be practically eliminated, and diseases of various sorts can be cared for at the same time in varying proportion. All the space becomes available at all times. As with general hospitals, so those for contagious diseases should serve as training places for physicians and nurses. The medical graduate and the nurse are not fully prepared for the practice of their professions if they have had no practical experience in the treatment of contagious diseases. The contagious diseases furnish the medical student with as great a variety of medical experiences as do those of a general hospital. Without a careful training in contagious diseases, a nurse is not qualified for institutional or public health work, and her field of activities is necessarily limited. Pupil nurses should receive this part of their training toward the end of their course, after they are familiar with aseptic technique. No pupil who is careless in her work should be allowed to continue. Before a person enters on this work, diseased tonsils should be removed; serious organic disease of any kind would naturally exclude any person from the work. By immunizing those who are susceptible to diphtheria, as determined by the Schick test, and by the use of gauze masks, rubber gloves and aseptic methods, the danger of contracting the diseases with which the nurses are associated is largely eliminated. To repeat: It is important that the profession and the laity should appreciate that the hospital for contagious diseases is not a nuisance but an institution of real service; that it furnishes innumerable problems for solution by the research worker, and that its clinical material should be utilized for the instruction of medical students and nurses so that patients suffering with contagious diseases among the people may receive prompt and efficient medical and nursing care, at the same time that effective measures may be instituted for protecting the well from infection.—*Journal A. M. A.*, Nov. 1, 1919.

<sup>3</sup>Richardson, D. L.: *Mod. Hosp.* 13: 108, 1919.

<sup>4</sup>Wilson: *Pub. Health Bull.*, 1918, No. 95.

### ADDITIONAL RULINGS ON REINSTATEMENT.

A series of decisions issued by the Director of the Bureau of War Risk Insurance with the approval of the Secretary of the Treasury provides more liberal conditions for reinstatement of lapsed or canceled insurance.

The provisions of Treasury Decision No. 47, allowing eighteen months from the date of discharge for reinstatement upon payment of only two months' premium on the amount of insurance to be reinstated, are retained. That decision is liberalized, however, by a new provision that men out of the service are permitted to reinstate by merely paying the two months' premiums without making a statement as to health at any time within three calendar months following the month of discharge.

After the three months following the date of discharge have elapsed, a statement from the applicant to the effect that he is in as good health as at the date of discharge or at the expiration of the grace period, whichever is the later date, will be required together with a written application for reinstatement and the tender of two months' premiums on the amount of insurance he wishes to reinstate.

In order to give all former service men whose insurance has lapsed or been canceled a fair chance to reinstate their insurance, including men who have been out of the service eighteen months or more, and who are therefore barred from reinstatement under the former ruling, a special blanket ruling is made which allows all ex-service men to reinstate their insurance before December 31, 1919, provided that each applicant is in as good health as at date of discharge or at expiration of the grace period, whichever is the later date, and so states in his application. Of course it is necessary that he tender the two months' premiums on the amount of insurance he wishes to reinstate.

Service men who reinstated their insurance by payment of all back premiums prior to July 25, 1919, when the decision requiring

<sup>1</sup>Chapin: *Sources and Modes of Infection*, 1910.

<sup>2</sup>Stokes, J. H.: *Pennsylvania M. J.* 12: 729 (Aug.) 1919.

payment of only two months' premiums went into effect, upon written application to the Bureau may have any premiums paid in excess of two applied toward the payment of future premiums. For example, if after a policy had lapsed for six months, a man reinstated and paid six months' premiums instead of two, he may secure credit for four months' premiums.

The provisions for reinstatement do not protect a man until he actually reinstates. If he waits he may not be in as good health as he was at the time of discharge, and consequently may not be able to secure reinstatement.

Don't put off reinstatement. Do it now!

### POTT'S FRACTURES.

W. L. Sneed, New York (Journal A. M. A., Nov. 1, 1919), says the most frequent disability following Pott's fractures is flat foot. This is often exaggerated by a slight posterior displacement of the foot on the tibia or a widening of the ankle joint, due to a rupture of the tibiofibular ligament. Of course, in a large percentage of cases this rupture does not occur. There is another factor in the reduction of a flat foot. Often after a Pott's fracture the foot is put up at right angles but in valgus position, putting the muscles supporting the arch on the stretch. In treating these cases the degree of disability and probable end-results are the main things to be considered in each individual case, varying according to the age and inflammatory changes. Sneed reports a case in which inspection showed the foot in position of equinovalgus, flat foot, posterior displacement and widened joint, illustrates his treatment and describes his operative procedure. First, the foot was forced into varus, overcorrecting the pes planus and putting the tarsal bones into normal relation. Second, an incision was made over the internal malleolus, the fibrous tissue removed, and the ends of the fragments freshened by chiseling. An inlay of bone was slid down from the tibia and sutured into place in a groove prepared in the malleolus. Third, an incision was made over the fibula which was divided transversely about 1 inch above the ankle joint, then the fibrous tissue with

the periosteum was enretted from between the tibia and fibula from the ankle joint up to the fracture line. Fourth, the Achilles tendon was divided by the "Z" method, and the foot was forced up into dorsal flexion. This reduced the posterior displacement. Then it was pulled around into slight varus, approximating the fracture of the internal malleolus to the tibia and forcing the raw surfaces of the tibia and fibula together. The wounds were then closed and the foot was put up in plaster of Paris in corrected position and held so for six weeks, when a roentgenogram showed normal reconstruction of the bony anatomy of the foot. "The after-care consists of: First, continual support; second, baking and massage; third, exercises and manipulations. The support of the foot was of two types: first, plaster of Paris for eight weeks, then adhesive plaster strapping for two or three weeks longer, and finally a Whit-arch support with a raise of shoe of one-quarter inch on the inner border of the heel and toe. The exercises and manipulations are those for re-establishing muscular power of weak feet in general." Sneed has had two other cases needing operation, one in which lengthening of the Achilles tendon was required and the other with rupture of the tibiofibular ligament. This patient was first seen six weeks after injury. An osteotomy of the fibula and a lengthening of the Achilles tendon, pulling the feet in varus and dorsal flexion, and using the after-care described above, restored the normal function of the foot. The importance of restoration of the normal mortise of the ankle joint is emphasized. If not so restored there will be too much play at the joint.

### PNEUMONIA.

G. H. Head (Minneapolis), and J. L. Seabloom (Red Oak, Iowa), Camp Wheeler, Macon, Ga. (Journal A. M. M., Nov. 1, 1919), remark that some cases of acute disease may revive an old dormant disease, as happens sometimes with tuberculosis following pneumonia, and say that they are not aware that the attention of the profession has been called to the fact that syphilis may act to prolong or delay the reparative processes in the lungs



after a respiratory disease like pneumonia. They observe that the healing process after pneumonia in syphilitics does not always progress as in the normal individual, and when the usual methods of treatment fail specific treatment has been effective. Three cases illustrating the good effects of arsphenamin in clearing up the delayed resolution in patients suffering from chronic syphilis are reported. They advise its use in such cases of unresolved pneumonia.

### BEEF-BONE SPLINTS.

E. W. Ryerson, Chicago (*Journal A. M. A.*, Nov. 1, 1919), recommends the use of beef-bone splints and pegs in uniting fractures of the long bones. An autogenous peg, made from the patient's own tibia, of course, is the ideal material. But conditions are conceivable in which it would be inadvisable to remove a portion of the patient's own bone. In fresh fractures, however, in a reasonably young person, heterogenous bone pegs may be used with safety and with the assurance of non-inhibition of bone growth. A Canadian surgeon has gone so far as to use beef-bone grafts in the spine, but Ryerson does not altogether indorse or recommend this. He describes the technic of obtaining the splint from bones of slaughtered cattle and the method of their use.

### THE SAMUEL D. GROSS PRIZE—FIFTEEN HUNDRED DOLLARS.

**Essays Will Be Received in Competition for This Prize Until January 1, 1920.**

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit

one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1920.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M. D.,

JOHN H. JOPSON, M. D.,

EDWARD B. HODGE, M. D.,

Trustees.

Philadelphia, May 15, 1919.

### BOOK REVIEWS.

MISCELLANEOUS NOSTRUMS. Prepared and issued by the Propaganda Department of the American Medical Association. Fourth Edition. 1919.

In this pamphlet the fraudulent claims and practices of numerous patent medicine manufacturers are mercilessly exposed. The medical profession should give whole-hearted aid in the distribution of this publication, and others like it which are issued by the American Medical Association to the end that the public be informed as to the methods used by the vultures who prey upon the fears and hopes of the helpless and ignorant.

MILK. By Paul G. Heineman, Ph. D., Director of the Laboratories of the Standard Serum Co., Woodworth, Wis. 684 pp., illustrated. W. B. Saunders Company, New York and Philadelphia. 1919.

In this splendid volume the author has compiled a great mass of interesting and extremely helpful information concerning one of the most

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The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

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important of all foods. When he completed his work there was little left to say about milk and its allied products. The chemistry of milk, the control of milk supplies, the bacteriology of milk, the production of milk from a health standpoint and from the business standpoint, certified milk, pasteurized milk, and whatever else can be well considered in a book on milk is taken up and thoroughly covered in the twenty-five chapters. A feature is the chapter on infant feeding by Drs. Abt and Levinson, of Chicago. In certain places the observations of the author are at variance with the views expressed by other widely read writers, but always there is to be found good reason for the positions taken and always his positions are well maintained. We do not know where so much information on the subject can be as easily found as is presented in this one volume.

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THE PERITONEUM. By Arthur E. Hertzler, M. D., Surgeon to the Halstead Hospital, Halstead, Kas. Two volumes. 870 pp., with more than 200 illustrations. Cloth, \$10.00. C. V. Mosby Company, St. Louis.

This is a work which should prove of great value to the medical profession at large, since it is prepared altogether with the purpose of presenting the facts that are known about the peritoneum, normal and diseased, in such order and in such manner as to enable the student to apply the facts clinically. In the first volume the anatomy and the physiology of the peritoneum are very fully covered. The latest teachings concerning peritoneal pathology are very clearly presented. The causation of adhesions, the prevention of adhesions, healing of peritoneal lesions and practically all else involving the pathology of the peritoneum are fully and ably discussed. The several diseases of the peritoneum are treated in the second volume and it is to be doubted that a better treatise can anywhere be found. The illustrations are well chosen and helpful, the whole arrangement of subject matter is splendid, and the discussion throughout is comprehensive and convincing. The author has impressed a strong personal stamp on his work and in the suggestions and advice which he advances from time to time and which have grown out of his wide experience will be found a most valuable feature of this very splendid treatise.

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WHAT WE KNOW ABOUT CANCER. A Handbook for the Medical Profession. Prepared by

a committee of the American Society for the Control of Cancer. American Medical Association Press, Chicago. 1918.

The American Society for the Control of Cancer has been in existence and working effectively for a number of years. The sole object of the Society—at present, at least—is the “dissemination of facts in regard to cancer, to the end that its mortality may be reduced by a wider knowledge of the disease.”

The effort represented by the present pamphlet has perhaps the most far-reaching possibilities for good of any single attempt to lessen cancer mortality undertaken in this country.

It is no longer necessary to argue the point that delay is the one great factor in cancer mortality. At least four-fifths of cancer deaths could be prevented by early recognition. The conditions necessary for recognition of cancer in ample time for cure are not ideal but distinctly practicable. Public education is one important pathway of improvement, but education of the medical profession itself is of equal if not greater importance. Statistical studies have shown that in the majority of cases the doctor has had the cancer patient “under observation” over a year before efficient curative treatment is instituted. It is needless to state that during this year the majority of cases have changed from curable to incurable. As the pamphlet itself somewhat mildly puts it, “the conditions call for a far keener appreciation of responsibility for the mortality from cancer than now generally exists in the medical profession.”

It is not possible here to abstract this pamphlet which is already so condensed. The general facts concerning cancer are outlined, and then each important type and site of cancer is taken up in detail and the form, symptoms, standard treatment, and results to be expected are outlined for each type.

The chief point we would make here is that if every medical man would study and seriously apply the teaching in this pamphlet, which he can read in an hour, the question of delay in cancer would be solved in so far as it is referable to the medical profession. The ultimate possible good obtainable from the widespread dissemination of this pamphlet is so great that we would urge every possible means to get it into the hands of as many medical men of all classes as possible. It can be had from the American Medical Association, 535 N. Dearborn St., Chicago, for 10 cents. If you are a trained surgeon, get it. It will interest you. If you are further afield, get it and study and apply it. If you feel misgivings that some of your cases in the past might have been saved had you been more sure and acted more promptly (and who of us does not have such misgivings?) get it. It will help you in future cases,



# **THE JOURNAL**

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### **PATHOLOGICAL CONDITIONS OF THE NOSE AND NASOPHARYNX AS PRE- DISPOSING CAUSES OF DISEASES OF THE MIDDLE EAR.\***

By Lewis M. Scott, M. D.,  
Jellico, Tennessee.

In this paper I wish to consider as pathologic all nose and throat affections which interfere with ventilation and drainage of the middle ear. It is recognized, of course, that in a perfectly normal nose and throat no such interference will exist. We also know that practically all diseases of the middle ear are secondary to pathology found in the nose and nasopharynx. It is furthermore evident, if we will observe closely, that a certain percentage of our cases of middle ear diseases are the result of hypertrophied or diseased faucial tonsils. This fact may be appreciated if we will take the time to investigate the anatomic relationship existing between the tonsillar fossa and the tympanum. No doubt many of us can recall cases where hearing suddenly improved after we removed the patient's tonsils, although we had no such result in view from the tonsillectomy at the time of the operation. This is probably the result of alteration in the adjacent lymphatics and nerves.

It is interesting to observe in the light of modern investigation some of the remote troubles for which a diseased tonsil may be responsible. The more I study these conditions, the more firmly convinced I am of the fact

that all diseased, or even suspicious looking tonsils should be removed; and yet, after so much light has been thrown upon the subject, how passing strange it is that physicians today are advising that such tonsils be let alone, or at most, just "clipped." Why not advise that just the crown of an abscessed tooth be removed? One is as scientific a method of dealing with the case as the other!

By far the greater number of middle ear diseases in children are due to adenoid growths in the nasopharynx. The fact that the Eustachian tube at this age is proportionately shorter and wider, permitting easier access to the tympanum of disease germs, serves to demonstrate the importance of this statement. When we take into consideration the relative position of the adenoid growth with respect to the location of the Eustachian orifice, it is surprising that a greater number of children do not develop middle ear disease. It is my opinion, based upon close observation heretofore, that neglected cases of adenoids in children lead to hypertrophied turbinates by interfering with cleansing of the nares through the act of "blowing" the nose, such hypertrophied turbinates in turn later serving as an obstruction which may cause disturbance in the middle ear. However, we must also admit that just the reverse of this may be true—i. e., that diseased or hypertrophied turbinates may lead to enlargement of the lymphoid tissue in the nasopharynx. So firmly convinced am I, when a child is brought to me for treatment because of impaired hearing, that the trouble is due primarily to adenoids, that I insist upon their removal instead of suggesting any other method of treatment (the result of which at best can be only temporary), and

\*Read before Section on Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association, at Nashville, April, 1919.

when allowed to operate I am never disappointed with respect to the ultimate outcome.

I have in mind at this time a recent case, the outcome in which serves to help demonstrate the truth of the foregoing statement. A child three years of age was brought to me from a neighboring town to be treated for acute purulent otitis media, both ears being involved and the hearing very much impaired. I attributed the cause to adenoids, but first resorted to treatment in the way of frequent irrigations, aspiration, inflation, etc., which was continued systematically for about two weeks. The discharge became somewhat less, but the hearing remained defective. I then advised removal of the adenoids, which I was convinced had been the primary cause of the trouble, and responsible for the continued discharge and loss of hearing. Consent to the operation having been obtained, I removed the adenoids, and within forty-eight hours the discharge completely subsided and the hearing was fully restored in both ears. The openings in the drum membranes healed without any further intervention. I could at this time, if space permitted, report a number of identical cases with similar results following adenectomy, but doubtless all the gentlemen present have experienced the same results in their own practice.

Just at this juncture we cannot refrain from referring to the fact that the average general practitioner, who is usually the first to be consulted in regard to ear cases in children, never suspects adenoids as the underlying cause of the discharging ear, and many of them direct the parents to introduce unsterilized oil and other substances into the ear or advise that the "running ear be let alone, as the child will outgrow it." We cannot imagine any more pernicious advice which might be given. As the logical result of such advice and treatment we frequently see cases where the disease has extended beyond the tympanum, involving the mastoid antrum and cells, and where the only thing left to be done is a radical mastoid operation, but with no chance of restoring the lost hearing. Let us hope that by a closer co-operation between the general profession and men doing special work that a more scientific

method of dealing with this class of patients may be the rule in the future and that fewer cases of deafness and chronically discharging ears will be the ultimate result.

Our time is too limited to discuss fully the pathology and treatment of the various nasal affections which may lead to middle ear diseases, but suffice it to say we do not believe there is any other field of our work more important and at the same time more neglected. It would be safe to state that not over one-third of the people today have perfectly normal nasal passages. This can be verified by systematic nasal examination of all patients who come to us for treatment. The fact remains, however, that many of those who do not possess normal nares never experience any inconvenience and may go through life without any evil effects being produced upon the middle ear or accessory sinuses; yet it is not the less our duty, as men devoting our time to special work, to insist upon the correction of all nasal troubles which might in any way predispose to diseases in the middle ear or elsewhere.

The two most frequent causes of nasal obstruction are hypertrophied turbinates and deflected septa, often found coexisting. In fact, it is my experience in nasal examinations to find very few patients who do not show some degree of hypertrophy of the middle turbinate or of septal deflection. Nasal polypi are not so frequently observed, but when they do occur there is no other form of nasal obstruction so complete or more likely to be the predisposing cause of middle ear troubles.

One of the most frequent middle ear affections in the adult resulting from pathological conditions in the nose is catarrhal deafness. Quite often this is accompanied by tinnitus aurum, which is very annoying to the patient. Not infrequently tinnitus is present where there is no evident loss of hearing; and we know of nothing more harassing to the patient or which responds so poorly to treatment. Atrophic rhinitis is another nasal affection often leading to tubal and middle ear diseases in which also little can be promised from treatment, the time for successful treatment having long since passed.

It is surprising the number of people who

waste valuable time treating themselves by spraying with solutions of various kinds, using patent "catarrh" remedies innumerable, and what not, who could have been cured of their nasal troubles and the danger of secondary middle ear complications thus avoided if timely scientific methods of treatment had been sought. Such self-treatment not only does great harm in a great many cases, but subjects the individual to the danger of incurable trouble later. Of course an exception to this rule would be cases of chronic atrophic rhinitis, where, as already stated, the time for any effective method of treatment having passed, the only thing to be done is frequent spraying to remove the constantly forming offensive crusts.

We have had an opportunity of observing and treating numerous cases of middle ear diseases since the influenza outbreak, in a large percentage of which, had investigation been made, no doubt could be shown to have presented predisposing conditions in the nose or throat; and we are likely to see many more such cases following in the wake of the epidemic, to say nothing of such after-effects of another probable invasion of the same terrible malady next winter. The fact that it was recognized in the beginning of the epidemic that the micro-organisms gained entrance through the nose and throat, and that it was highly important to keep these passages in as healthy condition as possible by frequent cleansing, suggests to us the extreme importance of a normal nose and throat.

It has been stated by some authorities that, since the nose and throat play such an important role in influenza invasions, this disease comes peculiarly within the province of the nose and throat specialist. Be this as it may, it not only comes within our province, but it is strictly our duty, to carefully look after the sequelae frequently occurring in the rhino-pharynx and middle ear from this disease.

That fact that so many cases of incurable deafness exist today, and that so much is being said and done with reference to the prevention of blindness, ought to stimulate the inauguration of some organized effort along the line of conservation of hearing. While the loss

of hearing may not be quite so serious a matter as the loss of sight, yet one afflicted with either is forced to go through life with a terrible handicap.

#### DISCUSSION OF PAPER OF DR. SCOTT.

Dr. Octavus Dulaney, Dyersburg: Mr. Chairman, we are exceedingly fortunate in having an excellent paper like this presented to us. There could not be a more practical paper read before this Society and published in our State Journal that would be of more benefit to the people than the paper just read by Dr. Scott.

I would like to back up the statements made by him that there are many cases of middle ear disturbances that could have been remedied by minor prophylactic measures. Statistics show that ninety-eight per cent of middle ear disturbances are secondary to nose and throat pathology. I can certainly back up what the doctor had to say in regard to enlarged turbinates and other obstructions of the nasal passages that interfere with proper drainage and aeration of the middle ear. In the text-books of physiology, so many of them state that the principal function of the inhalation of the air is to aerate the lungs, and fail to mention the importance of the proper aeration of the middle ear. Any obstruction by congestion or other means of interference of the eustachian tubes may cause an exhaustion of the air, thus producing a vacuum, or the air may become stagnant and this alone will excite an inflammation and many functional disturbances are caused in this manner.

It is absolutely necessary to maintain an equilibrium from a functional standpoint of hearing. The air is necessary to keep the mucous membrane of the middle ear in its normal condition. Without proper aeration the growth of bacteria is encouraged. In regard to middle ear disturbances or suppurative conditions of the middle ear, we must not forget that it is possible for bacteria or any pus-producing micro-organism to be carried to the middle ear either by continuity, lymphatics or circulation. Ninety-eight per cent of all children have adenoids before they reach the age of fourteen, but not all of these cases should be considered pathological. It is not necessary to remove adenoids from every child unless the adenoids are producing symptoms. If the mass large and interferes with aeration, or diseased in any manner, causes secretions to be retained which naturally encourages the propagation of bacteria, then in this case the adenoids would be decidedly pathological.

Dr. J. T. Herron, Jackson: I just want to add my testimony in regard to this as an exceedingly excellent and timely paper, and I think we all ought to express ourselves in regard to treatment



of these troubles and in regard to the causes. After we have found the cause of this ear trouble, I think then that we should be firm, and state to the patient that unless we treat our patient as we ought, we will discard the patient. Only a few days ago I had a patient that had middle ear trouble, a little boy about eight or ten years old, who had been operated on at some distant town. His adenoids had already been removed, an adenotomy had been done, and yet that boy had ear trouble, occasionally would take a little cold, and have some ear trouble, some discharge. Well, I am satisfied that that old tonsillar stump, that I used to defend, should have come out. And I want to say here that I went on record before this Association last year, that I would never cut another tonsil with the tonsillotomy. I am standing firm right now on that question. I said to the mother of the child, "After treating your little boy a little while I am going to give up this case and let somebody else do the work, unless you do what I want you to do."

After I had treated this ear and stopped this discharge, I said: "I am sure, or I believe, that your boy will have renewed attacks, and have mastoid trouble, unless you get rid of this tonsillar stump." There certainly must have been a large tonsil, because I could see where it had been smoothed off. Yet, in my opinion, from the investigation of this case, I could not find any other cause but that old tonsillar stump left there to produce this exciting cause; it does cause the trouble, and probably in future some will have mastoid trouble. I told this lady that I had done all I could do unless she permitted me to remove this old stump that had been left there, and she said she wanted to think about it, and I dismissed the case. I have made up my mind firmly and candidly that unless I can control these cases I will not tamper with them, because some time in future they are going to have trouble. One never knows when they are going to have mastoid or brain trouble and meningitis and die, and I don't want that on my record. So in every one of these cases I do a tonsillectomy operation, and it has given me such satisfaction since I have been doing that I expect to continue to do it, unless something comes up better, and I hope I will see it quicker than I saw the difference between tonsillectomy and tonsillotomy. We men who were taught in McKenzie's Throat Hospital, and such hospitals as that, to do tonsillotomy, you would expect we would cling on to that old idea, but I see that we were wrong. We did the best we could at that time, but I believe that tonsillectomy is so far ahead of it that there is no comparison. And remove the capsule. A man just as well not do a tonsillotomy if he is going in and leave part of the capsule there. If you are not satisfied that you have removed that entire cap-

sule, take your lifter and go under there and get hold of the remaining part of that tonsil, and take every bit of it out in the capsule. A few days ago I had a very fine tonsil to remove—it seemed to me unnecessary. A woman twenty-nine years old complained of having been operated on for everything, and still had headaches. I said to her, "Your tonsils don't seem to be giving you any trouble." She said, "Do something—something is giving me trouble." I said, "You ought to have this tonsil removed." She made up her mind in two or three days, or a week, maybe, and called there and said she was going to have them removed. I said, "No, you have to prepare yourself." She said, "I have been operated on so much I have already prepared myself." I had to wait a couple of days to get a room. I removed that woman's tonsils, because I saw that she was going to have it done, and I believe it was a good thing for her. I found pus in the back part of the tonsil that I could not see by observation. I found it was the substance in the back part of the tonsil; on that one particular tonsil I did not get all the capsule, so I asked for the tonsil to be sent back to me from the table, and I found that we had removed every particle of that tonsil, because all the capsule was there. That is the one important point: remove every part of the tonsil and adenoid and clean them up thoroughly, and I don't think you will regret it.

Dr. G. C. Savage, Nashville: I want to speak a word of caution relative to operating on adenoids in acute inflammation. I want to sound a note of warning on the adenoids. However necessary that operation might appear to be, unless the acute inflammation of the middle ear has subsided, it should never be done. I hardly think that word of warning would be necessary, nevertheless it is well enough to sound it. Wait until the inflammatory process in the middle ear has been brought under control before you deal with the adenoids, looking to the prevention of future attacks.

I am going to speak to you about the treatment of inflammations of the middle ear. There is never a day hardly that some one does not telephone me, asking if I treat anything but the eye. It seems everybody thinks I am an eye man, and an eye man only; but I answer always that I treat everything above the collar bone; yet I do not especially care if everybody should figure that I am only an eye man. I would like to devote my whole time just to the eye, because of its intense interest and exceeding importance. But I want to say this, that I have had literally thousands of cases of middle ear trouble in my experience, both acute and chronic inflammations of the middle ear. I have had less than one-half of one per cent of those inflammations of the middle ear to result in mastoiditis which I have had

from the beginning. That is a record of which I am necessarily more or less proud. I have not had many cases of mastoiditis. I have not operated on one, as Dr. Wood knows, for quite a long while, because it takes too much of my time, and I do not like to operate on those cases, and have not for a good long while. How can these inflammations of the middle ear be treated so as to make it less likely that there will be any mastoid involvement? Is it to be done wholly by irrigation with hot water? I should say no. I never irrigate an ear with hot water, or any other kind of water with a view of controlling inflammation. Is it to be done by ice applications? No, sir. Ice applications have done harm in a great many instances. But I believe there is a legitimate use of cold; I believe there is a legitimate use of heat. How, then, do I manage these cases, to succeed in getting the results that I get? In the first place, I do not care whether an ear is discharging or not. If there is pain I think it well to use dioxygen, or peroxide of hydrogen, as a preliminary step to the using of a healing and controlling medicine that I will give to you presently. I have given it to you a good many times in the past, but will give it to you again. The dioxygen or peroxide of hydrogen, either one, will open the cells in such a way as to make it easier for the medicine to be absorbed that will control the inflammatory process. What is that agent? Nearly forty years ago I got out of a journal a formula that I have been using more or less continuously from that time until this in the acute inflammations of the middle ear. That formula is: One grain sulphate of atropia; four grains sulphate of morphia; boracic acid, twenty grains; and distilled water, one ounce. Ten drops of this warmed and poured into the aching ear, if the pus has not formed already, and allowed to remain half an hour, and repeated every four hours, will control many cases of acute inflammation. It will not prevent the formation of pus, if the pus germs are there and already multiplying when you begin its use, but go on using it, nevertheless. Now, suppose pus has formed already. After it has formed, of course, the bulging membrane indicates to you its presence. It is all right to make your incision; but when you make your incision, continue the applications of dioxygen or peroxide, for cleansing purposes, and continue also the atropia, morphia and boracic acid solution for healing purposes, or trying to control the pain. As soon as the pain is under control, do not discontinue the atropia and morphia solution, but alternate it with another agent that certainly is most helpful in controlling the pus producing process. That other agent is nothing more or less than a combination of three familiar agents we have, every one of them being germicidal. Strange to say,

that either one of these agents tends to counteract the poisonous effect of the other; one is acetic acid, another is carbolic acid, the third agent is alcohol. That is a strange sort of combination to some of you, maybe, but nevertheless it is most effective. Ten drops of pure carbolic acid and twenty acetic acid, U. S. P., and alcohol one ounce, make an agent that will help in controlling the suppurative process in the middle ear, according to my experience. After a cleansing ten drops should be poured in the ear and allowed to remain ten minutes. In four hours the atropia and morphia solution should be used. The alcohol and carbolic acid solution should be used at the end of another four hours. Thus continue until the patient is well.

The Chairman: I think Dr. Savage wandered from the subject more than the title. Please stick to your subject, gentlemen.

Dr. Savage: Mr. President, we miss the whole purpose of Dr. Scott's paper, unless you discuss the inflammatory troubles of the middle ear.

Dr. A. C. Lewis, Memphis: Dr. Scott has so well covered the subject that I would have very little to say. It is true that the middle ear diseases are always—if not always, they are nearly always—caused by the infection from the nose and throat, by pathology in the nasopharynx and the nose. You might say that in running ears, chronic otitis media, in children in all cases are due to adenoids. I don't think there is any exception to this rule. Dr. Dulaney said 92 per cent of chronic cases. I do not say that all cases of otitis media, but all cases of chronic otitis media, practically all cases of otitis media, are due to diseased tonsils and adenoids in children. Of course the acute infectious diseases cause purulent otitis media, but they very soon get well if the nasopharynx gets clean.

Dr. Dulaney mentioned the fact that all children had adenoids. All children have lymphatic tissue in the nasopharynx, and it belongs there. These glands belong in the nasopharynx, but they are not adenoids until they become greatly enlarged, and of course they ought not to be molested until they are large enough to interfere with the breathing, or with the running from the ears, or to keep up a chronic otitis media.

I do not agree with Dr. Savage about always waiting in the acute cases until they become chronic, waiting to operate on the adenoids until the acute stage passes in the middle ear troubles. I do not believe there is any objection at all in operating on acute otitis media. I think the opening up and removing of the adenoids to get a free drainage through the nasopharynx will cure the middle ear trouble very much quicker, and by using an antiseptic, an alkaline nasal wash, to keep the nasopharynx clean, I see no objection in going right ahead with it.



Dr. John W. Moore, Nashville: Gentlemen, I was unfortunate in not having the opportunity of hearing the paper by Dr. Scott read. But its purport is manifest. And in those cases I would like, therefore, to make a remark or two. I have done, unfortunately, a thing that I have been guilty of at times myself, and I am sure all of us have, more or less, that in correcting the things that are the causative agents in otitis media we are rather inclined to let it go at that. Manifestly, the only way to treat a disease is in the beginning to remove the cause of the trouble. That we do by operating on the tonsils, the adenoids, and the other nasal adenoids that we have conceived to be the cause of these things. And I notice that there is a great tendency among throat men to let their patients disappear from their observation too early. Relative to a point brought up by Dr. Savage, and commented on by Dr. Lewis, the operation for the removal of adenoids during the acute stage of otitis media, I made a practice of regularly doing so provided there is perforation of the drum—I think that is the decisive factor. I hesitate to do so when there is not yet a perforation, and I think I can get by without having a perforation; but at times, when I desire to secure a perforation I do a paracentesis and remove the adenoids at the same time. I think that is rational, and I see no objection to it.

The question that has been brought up by some gentleman in regard to the methods of removing the tonsils, adenoids and those things, they are not parts of the paper, etc., and I think some of it is so manifest as not to need further comment.

Dr. Louis Levy, Memphis: Mr. Chairman, it seems rather impertinent for a young man to get up here and make a statement against Dr. Savage's practice, but I cannot agree with him in using dioxygen or peroxide in ears where the drums are perforated and you cannot see just how far the dioxygen is going. I have never used it with these cases in my practice. I well realized this when I was an interne. I noticed how simple it was for a great many men to drop a little peroxide or dioxygen in the ear, and let it go at that, but we used to see, too, resultant mastoids. In our private practice it would certainly not do to tell a patient to use dioxide or peroxide in an acute suppurative ear or chronic otitis media, because we cannot tell how much damage is going to be done inside, especially knowing its danger of going into the mastoid or following a fistulous tract into the brain. Dr. Lewis makes the statement that all suppurative conditions of the ear in children are due to adenoids and tonsils. How many times do we see children who have had scarlet fever or diphtheria or other infectious diseases that have had adenoids and ton-

sils removed, who have chronic suppurative otitis media and did not get well until a radical mastoid operation was done? However, I think we are laying too much stress on the suppurative part of otitis media, and forgetting the other conditions with which the doctor's paper dealt, especially the conditions arising from nasal pathology, causing chronic catarrhal conditions, especially seen on the deviated septums and posterior hypertrophy of inferior turbinate. I personally do not believe that in every case of deafness the tonsils are the main factor. We see chronic catarrhal conditions with posterior hypertrophied turbinates that do far more damage than the tonsils. However, I do not want to be misunderstood—the fact is that oftentimes buried tonsils causing pressure about the Eustachian tubes do give us a great deal of trouble and until removed our patients with the ordinary treatments do not improve.

Dr. Yarbrough: Let me suggest that he try alcohol. I know he is prejudiced against it in every way, shape, form and fashion. Try dioxygen.

Dr. B. F. Travis, Chattanooga: This is a very important subject, because it deals with the middle ear, and we know that the ear is one of our most important organs. Pathological condition of the nose and throat causes this, and it begins early in life. I have sounded the alarm at home, in Chattanooga, at the Medical Society there, that these children ought to be looked after at a very young age, because there is where the trouble starts. If the rhinopharynx is in bad condition they will do like they had adenoids, or tonsils, or whatever it is, because you know there is nothing like drainage and aeration for ear troubles. Do not wait until you have a middle ear trouble, but take care of it in advance; and if the doctors would do that, if we would all educate them, I think we would have less middle ear trouble.

Now, with regard to Dr. Herron's remark that he sounded the alarm here two years ago that he would not do any more tonsillotomy. I have not used a tonsillotome in a dozen cases. I have done the tonsillectomy since it first began, and I have never used a tonsillotome since, and do not expect to.

I think Dr. Savage got a little off the subject, in treating middle ear troubles, but I would like to say this. I have in my experience used everything nearly, but two or three years ago I found that novocain was a great thing in relieving acute otitis. I have avoided more cases of acute otitis with this prescription than anything else. During the war, when you couldn't get novocain, I felt like I was ruined, I didn't know what to go back to. I managed to get along, using Dr. Savage's atropine, etc., but I saw that we could get



this preparation again, and I am using that now. When they call me up at night and ask what to do, and I tell them, and next day I see them and find them all right. I use novocain in half an ounce of adrenalin, one to about four or five, and I usually put a little boracic acid in it, to instill into the ear and use it pretty often.

Dr. Savage: How long do you leave it in the ear?

Dr. Travis: Keep it there constantly, time and again, and I have had wonderful results.

(Dr. Lynch, of New Orleans, here entered the hall, and on motion, duly seconded and carried, the privileges of the floor were extended him by the Section.)

Dr. Herron: I want Dr. Lynch to answer this question, please, or Dr. Scott. It is this: I have been confronted with several cases of young children, two years old to three years old, that had tonsils and adenoids, within the last few months, and as Dr. Scott does not advise tonsils, or adenoids, as I understand, to be removed at that age. I had a child just a few days ago to come to me. A child last year had a sloughing condition of this gland, had large glands on both sides of the neck, and the general physician told me that he had had a very hard time with this child; the child will be two years old in June; has very large tonsils—has adenoids. The question with me is, would you remove those adenoids and tonsils, at that age? Last year I removed one at three years of age, because it seemed to have such a difficult obstruction, and they just would have it, and I did, and it received benefit. This child comes three years of age in June, and the question is, should I do that or not? I would like to hear from some competent man that has had experience along that line. I readily understand that four or five or six, or along there, it would be all right, and I would not hesitate to do it, and I won't hesitate to do it if some man on this floor that has had experience in this line at that age. I would like to have that question answered.

Dr. Scott: Answering the doctor's question, I would say, remove the adenoid at any age that they give rise to symptoms.

Dr. Herron: I mean tonsillectomy.

Dr. Scott: I am speaking of adenoids first. I would say to remove the tonsils if they are giving rise to bad symptoms at at least three years of age.

Dr. Herron: This is two.

Dr. Scott (closing): As to the earliest age tonsils and adenoids may safely be removed, we never like to enucleate a tonsil in a child much under five years, owing to the restricted field in which to operate. However, if the tonsils are causing serious trouble, we should remove them even at a much earlier age than this. With re-

spect to adenoids, it is safe to remove them at any age.

Dr. Savage referred to the fact that adenoids should not be operated on during an attack of acute otitis media. I agree with him in this respect. In the case reported in my paper, I waited until the acute symptoms had subsided before removing the adenoids.

In my experience, the most frequent middle ear trouble in children, due to adenoids, is catarrhal deafness. In fact, we may safely say that practically all cases of impaired hearing in children are either directly or indirectly due to adenoids. And it is useless to expect any satisfactory results from treatment otherwise than radical methods.

We should not minimize the importance of a normal anterior nasal passage in the adult. Free ventilation and drainage of the middle ear is often interfered with by an enlarged middle turbinal or a deflected septum.

## INTESTINAL OBSTRUCTION.\*

By Robert Caldwell, M. D., F. A. C. S.,  
Nashville.

Intestinal obstruction continues to be one of the unsolved problems with which we are confronted. Much experimental data is now at hand in an effort to determine the cause of death in acute intestinal obstruction. No two workers in this field are able to arrive at other than similar conclusions. However, after a rather hasty review of the literature on the subject, I am encouraged to believe that the question is solved insofar as obtaining a practical working basis for the surgeon is concerned.

The statements herein made are referable only to acute mechanical obstruction. The other forms of ileus are entirely different problems, and are related only inasmuch as they have to do with the intestinal tract.

The causes of intestinal obstruction are post-operative adhesions, hernia and inflammatory adhesions, the frequency being in the order named. Of course the rarer causes are always to be considered, such as intussusception, volvulus, tumors, worms, gallstones, developmental bands.

Deaver, in reporting 276 cases gives 253 as due to the first three causes named. He

\*Read at annual meeting of Tennessee State Medical Society at Nashville, April, 1919.

gives first place to hernia, but it has been suggested in more recent years, owing to the increased number of abdominal operations, that post-operative adhesions have risen to first place.

The symptoms of obstruction are, first, pain; this in the early stage is intermittent in type for at this time it is due to peristalsis. It will increase in severity for a given time and then recede to a point where it becomes continuous. The cessation of the intermittency is due to paralysis of the gut proximal to the point of obstruction. The continuous pain is caused by tension due to swelling which is in turn produced by interference with the blood supply, hence it is not the severe type of pain that you have in inflammatory processes such as appendicitis. In obtaining a history you should not be content with the statement that pain exists at a certain point but you should know all the characteristics of the pain. If you will do this and then know how to interpret the different pains it will be of very great assistance in arriving at a correct diagnosis.

Vomiting is the next most important symptom, and we should know the type of vomiting as well as the type of pain. Vomiting of obstruction is characterized by its persistence and the large quantity of material returned. We are caused to wonder many times what could be the source of such a quantity. Vomiting from any other source does not approach in quantity of material ejected that of obstruction.

The physical findings are negative in the early stage, with temperature normal or slightly below, very little increase in pulse rate, no or very little abdominal tenderness, and no abdominal distention. The latter point I would stress, for our text-books lead us to expect great distention, and this only occurs very late in the disease. To wait and look for this is like waiting for general peritonitis to make a diagnosis of appendicitis.

I would have you bear in mind that the above symptoms and physical findings apply only to the early stages of obstruction, and as it is this stage we must recognize if we would save the lives of our patients, I shall not divert your minds by calling attention to

the late symptoms as well as the symptoms of the complications that always occur late when the patient is beyond redemption.

In order to formulate a plan of treatment for these cases, it is well to consider for a moment the cause or causes of death. Some of the numerous theories advanced by different investigators are central nervous disturbance, peripheral nervous disturbance—i. e., splanchnic paralysis, bacterial invasion, loss of necessary function of parts involved, formation of peculiar poisons and dehydration due to vomiting. I think at the present time all the above theories have been abandoned by most investigators, except that of a violent toxemia, and about the only point of difference is the nature of the toxemia, one claiming it is a normal secretion that is absorbed before it is detoxicated by passage lower in the intestinal tract, another that it is bacterial in origin and still another that it is a toxic proteose produced by faulty protein digestion, and lastly, that it is due to a combination of the last two.

It is not only necessary to have the production of a toxic substance, but as well its absorption, and with this we are most concerned. This is about the only point upon which all investigators agree. The absorption is not from the normal gut below the point of obstruction, as was formerly believed, but is from the damaged gut, consequently the greater amount of gut drainage and the greater the drainage the more overwhelming is the dose of poison and death will result very rapidly. Brooks, of St. Louis, has demonstrated this very definitely in this way: By isolating a loop of gut and destroying its blood supply death occurred very quickly, and the contents of the loop were not nearly so toxic as in another loop where the blood supply was not interfered with, the animal living a much longer time and recovery after removal of the loop with its contents. Brooks has further demonstrated that the longer the contents are allowed to remain in the loop the greater becomes the toxicity.

These experiments of Brooks to my mind more definitely prove the absorption of the toxins from the injured gut than any other. Clinically, I think one of the most important

factors in producing disturbances in the tissues of the gut is the distention from the gas formed within the loop. Of course the cause of obstruction would be conducive to gut injury, depending upon whether or not the blood supply through the mesentery was interfered with.

We would then base our treatment upon these two factor—namely: That the cause of death is toxemia of some indefinite type which is formed above the obstruction and is absorbed more or less rapidly, depending upon the extent and degree of injury to the gut wall. The treatment of intestinal obstruction is surgical, first, last and all the time. Many lives are lost by resort to the various medical measures employed to secure relief in these cases. If we would use the same amount of energy in endeavoring to arrive at an early and definite diagnosis, instead of instituting treatment upon indefinite diagnosis, many cases would be saved.

In the light of the foregoing facts, if we are to lower the mortality of intestinal obstruction, one thing is absolutely necessary, and that is an early diagnosis and prompt surgical relief. If we allow these cases to exist until the patient has manufactured and absorbed a lethal dose of poison, then our efforts at relief will be in vain; it is as though we took the bottle of strychnine away from the patient after he has ingested a toxic quantity. So above everything else I would urge that we use every means at our command to arrive at a diagnosis at the earliest possible moment.

Operative measures employed in the relief of this condition are in the main two: First, relief of the obstruction, and, second, emptying of the toxic material that has been produced. In the light of the foregoing experiments it is very doubtful to my mind as to whether more damage than good is done by enterostomy. If it is true that toxic substance is not absorbed from normal mucous membrane, why is it not just as well to empty this material into the gut below as outside? In doing an enterostomy we, of course, increase the amount of damage to the gut and thereby increase the rapidity of absorption. Then I would suggest that we should only

resort to enterostomy in those cases in which it is extremely hazardous to make an effort to relieve the obstruction. On the other hand, cases in which obstruction can be removed quite readily we would probably do more harm than good by performing an enterostomy in an attempt to relieve the obstruction. The cases in which probably this would not be an ideal plan are the ones in which a loop of the gut is obstructed, because in this instance the toxins from above the proximal point of obstruction would be turned loose into the portion of the gut where they could be absorbed most readily. So in these cases an enterostomy just above the proximal point of strangulation would be of value, while probably an enterostomy below the distal point of strangulation would be of no value.

All other treatment, such as hypodermoclysis to counteract dehydration from vomiting, stimulation, etc., should be used according to indications in the case.

In conclusion we would say, first, most probably the cause of death is due to toxic proteose alone, or associated with infection; second, that if we expect to lower the mortality of acute intestinal obstruction an early diagnosis must be made; and third, that an enterostomy should be done only in cases where the obstruction cannot be dealt with, or where there is a loop obstruction, then an enterostomy should be done above the proximal point of obstruction.

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#### DISCUSSION OF PAPER OF DR. CALDWELL.

Dr. Eugene M. Holder, Memphis: Dr. Caldwell's paper deals with an intestinal crisis, or, you might say, an abdominal calamity. I followed him along during the reading of his paper, thinking I might pick some flaw or find some omission or some error, and that I might be able to add something to what he had to say, but I do not believe I can.

It is quite evident to me that Dr. Caldwell is perfectly familiar with all the recent literature on intestinal obstruction. I saw some experiments carried on in Philadelphia in the University of Pennsylvania four years ago trying to isolate a toxin from the diseased loop of gut. The diseased loop of gut is intensely poisonous, and cyanid of potassium is not in the same class with it.

The plan Dr. Caldwell has outlined is familiar to most of you of resorting to surgery not only



for relieving the diseased loop of gut, but of getting rid of the toxic material in that portion of the gut afterwards, otherwise your patient will be killed as with ten grains of morphine, as it is a violent poison. If you do not want to do an enterostomy, insert a syringe and draw out the fluid, making a puncture through the gut wall, pulling it out, and injecting a saturated solution of sulphate of magnesia or something of that sort. That is a plan which is probably not new, but certainly no trauma is inflicted on the gut. If you have this hole you can put a Lambert suture or purse-string around it. It is a plan that would certainly offer something in these extreme cases.

The important point with most medical men and even with surgeons is how to make the diagnosis. There is no reason why we should wait until these cases become toxic or poisonous and then try to relieve the condition. How can we tell intestinal obstruction? There are so many abdominal conditions that simulate it. An acute appendiceal attack simulates intestinal obstruction and frequently comes from a local peritonitis. All types of intestinal conditions, like perforating ulcers of the duodenum, look like intestinal obstruction. It is an abdominal calamity, a tragedy. If you see a condition which looks to you like intestinal obstruction, open the abdomen whether you make a diagnosis or not. I do not like to do an exploratory operation; it is not scientific. Suppose we open the abdomen and do not find intestinal obstruction, you may lose one case in ten or in twenty-five, but the other twenty-four you will have saved by operating early. Intestinal obstruction so many times misleads the general practitioner from the fact that these patients get by using enemas bowel movements. Where is the obstruction? If it situated high up you will get bowel movements. You wash out the feces in the large intestine; the liquid feces in the small intestine pass down and you wash out more. If you get flatus you think you have no obstruction because you forget the obstruction is high up.

Dr. Caldwell did not mention the scanty output of urine in these cases. The higher up the obstruction the less urine is secreted. That is a point worth while to remember as an aid in the diagnosis. The vomitus usually is large in quantity. There is nothing else that we can think of in which there is so much vomitus from the patient. One other condition I might suggest is the patient's stomach, from which we get a large quantity of vomitus. Here you get an immediate shock, which is different, although hardly worth while to many. You get an acute dilatation of the stomach and an enormous output of yellowish or blackish vomitus.

Intestinal obstruction is going to be a condition which we will have to confront as long as we

practice medicine, and the sooner we get to the point of thinking and believing that it is not a medical condition, that there is no use in wasting time on castor oil and croton oil and enemas, the better it will be. The mortality is very high, increasing rapidly as the hours go on. The average patient so afflicted lives about eight days. After the first forty-eight hours there is very little chance of saving life.

I have nothing of value to offer. I do not think Dr. Caldwell left out one single thing except the point or suggestion I have made of aspirating the fluid contents of the gut above the seat of obstruction; in other words, pumping out the stomach as if the man had swallowed corrosive sublimate or morphine, pumping out the gut with a Potain aspirator.

Dr. A. L. Rule, Knoxville: I want to report a case of intestinal obstruction which was rather peculiar. As a usual thing we have well defined symptoms, and especially in the certain types of cases do we have a well defined symptomatology.

I remember several years ago of having a patient in the hospital who had undergone a simple perineal operation. I could not believe myself that this patient was seriously ill. One morning I was telephoned for to come immediately to the hospital, and when I got there she was dead. She had had her coffee for breakfast. The day before she had a pleasant day; she did not vomit a single time; she never complained of pain. I got permission to make a post-mortem examination, and to my astonishment I found twelve inches of the gut involved in intestinal obstruction. So, gentlemen, we cannot always depend upon pain. We cannot always depend upon vomiting in these conditions.

Just recently I saw a case in a lady who had pain. Her belly was flat. I made a diagnosis of acute appendicitis, and to my great surprise, she had intestinal obstruction.

Dr. A. L. Yearwood, Fayetteville: By intestinal obstruction we mean an occlusion of the lumen of the intestine with a stoppage of fecal contents, with an arrest of peristaltic action, and strangulation of circulation produced by some mechanical cause and characterized by abdominal pain, nausea, vomiting, constipation, meteorism and shock.

Intestinal obstruction is not always easily diagnosed. Many cases are often undiagnosed, and it is frequently misnamed.

Dr. Caldwell told us that in intestinal obstruction, pain, nausea, vomiting, constipation, meteorism and shock are the cardinal symptoms. He tells us that the pain of intestinal obstruction is different from that of almost any other form of intra-abdominal trouble. You see these patients in the first twelve or twenty-four hours rolling on the floor, crying out with a lancinating, agonizing pain. You pull out your hypodermic and give the

patient a hypodermic injection of morphin, and you may find he does not yield readily to morphin. I want to say in this connection that we should be very careful in giving hypodermics of morphin in any intra-abdominal trouble, because you may lose the golden opportunity for an operation. The pain is excruciating, lancinating and agonizing in character. The patient rolls on the bed and on the floor, grasps his abdomen and cries out with pain. You find that the next symptoms are nausea and vomiting, at first vomiting the contents of the stomach. Next it becomes possibly mucous; there may possibly be some blood, and then the contents may become feculent in character. That is one of the characteristic symptoms of intestinal obstruction. The diagnosis does not depend upon the vomitus or the manner of vomiting. It depends largely upon vomiting the contents of the stomach, and when it becomes fecal in character, one can almost make the diagnosis on the quantity of the vomitus. A good deal depends upon the seat of the obstruction. The higher the obstruction the less the vomiting; the lower the seat of obstruction the greater the vomiting. You can have bands close to the stomach and the amount of vomitus may be very little; the obstruction may be low down in the gut and the vomiting will be very great.

As to the forms of intestinal obstruction, I think we should divide them into these classes: Intestinal obstruction due to band; intestinal obstruction due to volvulus, and intestinal obstruction due to intussusception. The pain varies in accordance with the form of obstruction. The vomiting varies in accordance with the form. Constipation is variable in intestinal obstruction due to intussusception. Constipation is conspicuous by its absence. We usually have a diarrhea. So I believe that in all intra-abdominal troubles, if we make our diagnosis before the patient is moribund, and can make our diagnosis without the use of an opiate, we should strive to do so.

Dr. S. R. Miller, Knoxville: Dr. Caldwell has given us a most excellent paper, and according to what he says we should be able to differentiate between the different forms of obstruction, but some of us who have had bitter experiences do not find that the differentiation is easy.

I want to refer briefly to two cases in my own experience, one of which was a case of fracture of the pelvis and laceration of the ureter and bladder. The injuries were repaired, and the patient seemed to get along very nicely. He had some nausea and vomiting for a few hours afterwards, which we thought was from the anesthetic. He went on for a week without any bad symptoms and without any marked pain. After that he began to have an aversion for food. He had an increased pulse rate and did not want to drink any water. It had to be forced on him. About

the eleventh day he died. We succeeded in obtaining an autopsy. We made a diagnosis of no wound of the bowel from the fracture. We were anxious to determine if this man did have a wound of the rectum. We found to our surprise three intussusceptions, one in the ileum, another about seven inches higher up, and still another fifteen inches higher than the second. We never would have diagnosed that, had it not been for the autopsy. He vomited only four times in the last three days of his life.

Another case was post-operative. We thought we had adhesions to deal with. The woman had the usual nausea and vomiting for twenty-four hours after the anesthetic, and did very well for four or five days, then she began vomiting occasionally. I think she vomited off and on for two days, then there were two or three days without nausea and vomiting, and after that she took a moderate amount of food and she began vomiting again. She was a very thin, emaciated woman, and at the time of the operation, which was for a chronic appendix, and for a retrodisplacement of the uterus, we remarked as to the extreme thinness of the intestinal wall. We expect that in a thin woman who has been on a restricted diet for a year. About the thirteenth day after the operation, after having had two or three days of fair comfort and had been able to take food, and had what the nurse regarded as fair movements of the bowels, she suddenly developed very grave symptoms and we determined upon an operation, which was done on the fourteenth day. No adhesions were found. We did find an intussusception in an intussusception, and the diagnosis was that there was intussusception with some fluid contents and gas in the bowel passing through it. She was getting along very well until another intussusception passed into this one. The first intussusception had marked adhesions. The latter had no adhesions and appeared to be recent. We resorted to aspiration, drew off a considerable quantity of gas and liquid contents from the bowel, passed a rectal tube and drew off twenty odd ounces from the rectum. The woman reacted from the anesthetic in two hours. She went on for four or five hours with a fair degree of comfort, was entirely conscious, and then suddenly lapsed into an unconscious condition, with a temperature below 100 degrees, and within three hours her temperature rose to 106 degrees. She died about three hours after the last symptoms developed.

Dr. Caldwell (closing): I did not attempt to cover the whole subject of intestinal obstruction and to go into all the details. I simply called attention to one or two points, one of which was early diagnosis, and the other indiscriminate enterostomy that is done. Many times an enterostomy does not benefit, but injures.

With reference to the diagnosis, if we will save all the cases that give us a definite history of intestinal obstruction and let the rare ones go because they do not give a clear history, I am sure we will not have as many cases of death from intestinal obstruction, and we will lower the mortality to at least two or three per cent. Let us get a picture of the everyday condition in our mind, and not the rare cases. We have rare conditions in all intra-abdominal conditions; we have those cases that do not manifest the usual type of symptoms. Let us save the ones that give us the history of the right kind; of pain and vomiting, and above all, stop medicating these cases, stop depending on enemas and salt and castor oil to make a diagnosis for us. Let us make the diagnosis by the history and operate on these cases early.

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### ANEURISMS: REPORT OF CASES.\*

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By Edwin B. Anderson, M. D.,  
Chattanooga.

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Since 1908 I have treated numerous cases of aneurisms, the majority of which represented nothing extraordinary or worth mentioning.

It has been stated that aneurisms may be as small as a millet seed and as large as a foetal head, and I believe that the cases which I shall report bear out this statement, which you will see later on in this discussion. The cases which have been of interest to me are as follows: One arterio-venous aneurism of left subclavian, one right subclavian, one external iliac and one of a branch of the hepatic artery. Two of these cases were due to syphilis and two to trauma.

**Case No. 1.**—Arterio-venous aneurism of subclavian artery. Mr. A., age 26 years. Operated upon, 1908. Two years prior to that date he was shot accidentally in the axilla, leaving small shot and powder burns in the axillary space. About six months prior to operation the patient suffered much pain in axillary and pectoral regions, and an enlargement was noticed just under the pectoral muscle; the musculo-spiral nerve was paralyzed, due to the contraction of the fascia in axilla. There was a distinct murmur heard

with each pulsation; this was the aneurismal bruit. The subclavian artery was ligated in the third division and the axillary vein was also ligated, and the nerves freed so that the innervation was also much improved. This patient made a good recovery and was living the last time I heard from him.

This case could have been done after the ingenious method of Matas had I been familiar with his technic.

The second case in order of operation was in 1909. This patient was a young man—a bricklayer by trade—who had, about two years previously, been shot with a .32 caliber pistol. About three months prior to his entrance to the hospital he was confined to his bed and treated for rheumatism. He later developed a large mass in the right iliac region, which was very painful. He ran a temperature of 103 to 104 for several days prior to his admission to the hospital. There was no expansile pulsation, as is usual in these cases, and the sac was infected and inflamed. Here is where the real difficulty of diagnosis arises and the surgeon gets into trouble.

The internes brought this patient to the operating room with a diagnosis of psoas abscess. The abdomen was opened; the tumor was well surrounded by gauze packs. A free incision was made in what was thought to be a psoas abscess. A great gush of blood instantly revealed the true nature of the case. It was through presence of mind and prompt action that the patient's life was saved. I quickly packed the sac with six square yards of gauze and the hemorrhage stopped, to my delight and surprise. Keen's surgery only mentions five yards of gauze used in packing the sac, but when I reported this case to Dr. Matas, I did not know that I had left one yard of gauze in the sac, which was discovered after the patient had been dismissed from the hospital. The patient threatened to bring suit against me, but I assured him that the gauze had been "intentionally" left in the sac, and that that piece of gauze was partly responsible for the success which attended the operation. The other gauze packs were gradually removed in sections, in the course of two weeks, and the patient made a perfect recovery and is in perfect health today.

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\*Read at annual meeting of Tennessee State Medical Association, April, 1919.



The classic and often quoted mistakes of Ferrand, DeSault, Pellatau, Dupuytren—all surgeons-in-chief of the Hotel Dieu, of Paris—prove clearly that even the most experienced may be deceived. But this mistake of mine was the means of a life being saved after several of our best surgeons had abandoned a case of subclavian aneurism, in Chattanooga, as hopeless, which I shall report as Case No. 3.

Having the case just reported in mind, I thought this subclavian could be treated in the same way, in the event that I should not be able to ligate the subclavian in the first division. I asked permission to have the case assigned to me and operated upon this patient February 25, 1919. The usual incision was made, and the clavicle detached from the sternum. The sac was easily seen to fuse into the innominate artery, but while manipulating the sac it ruptured and another rush of blood had to be dealt with, but it proved not to be so surprising as the first experience. The flow of blood was controlled by gauze packs. I was not satisfied with this procedure and feared that the opening was too close to the innominate artery and that a secondary hemorrhage was almost certain to ensue when the gauze had to be removed, so I sent the patient back to bed, and five days later, after he had recovered from the shock of the first operation, I did a second operation when I removed the gauze previously inserted, and packed four square yards of gauze through the second incision made through the pectoral muscles, and farther away from the origin of the subclavian. The hemorrhage was easily controlled, but an immense amount of blood was lost during this second performance, as well as the first.

The aneurism was of such size that there was much pressure on the cervical and brachial plexus, and there was paralysis of the entire upper extremity. For two days I almost despaired of saving the arm on account of the slowness of the collateral circulation to become established. I ligated the axillary vein in the second operation. After forty-eight hours the circulation improved very rapidly, but the innervation did not show any improvement until I began to remove

the gauze in sections, ten days after the second tamponade. I removed all of the gauze packs in the course of four weeks; perhaps I could have safely removed it within two weeks, but I was playing safe. There was at no time any elevation of temperature, to speak of, and the oozing stopped after the second day. It is plain that the bleeding from the orifices were sealed by plastic exudate or organized thrombi.

While obliteration of the orifices by thrombi or exudates can take place very quickly (within a few hours or days), it is evident that no dependable hemostasis can be expected until complete organization of these exudates or thrombi has taken place. The organization of a clot, or an exudate, cannot be expected to occur until at least twelve or fifteen days have elapsed after the tamponade of the sac. At the end of the second week organization of the clot should have begun, but this can only be recognized by the presence of granulation tissue. The time for the removal of the pack may be hastened by a premature detachment of the gauze, but it is safe to wait until granulations are plainly visible in the edges of the wound, or when you can find a portion of the gauze that can be removed without any exertion. Within two weeks the gauze becomes so much saturated with the exudates that it is difficult to remove it. Be sure to save the deeper pack for the last act.

After the gauze had been removed, the sac filled rapidly with granulations. After the original pack was removed it was necessary to insert fresh gauze for several days as a drain. This patient showed a Wasserman four plus.

I contend that it was better to have treated this case in the manner above described than to have ligated the innominate artery, and I believe that the case of external iliac treated by the open method and gauze pack was preferable to a ligation of the common iliac. Both cases were of such immense size that I doubt if any other procedure would have given as good results. However, this method is only offered in cases of great emergencies, which they represent. After searching all available records I have failed to find such an operative

procedure reported, and Dr. Matas thinks that these two cases are unique experiences.

The next case is one of multiple aneurism, necessitating amputation, and should be recorded as a rare example of the aneurismal diathesis.

This patient was 32 years old, white, a machinist by trade. Wasserman reaction, four plus; the entire arterial system markedly sclerosed. Was admitted to hospital August, 1916, with radial aneurism. The radial artery for four inches above the aneurism was practically solid, which made it impossible to do any operation but the simple ligature just above the aneurism, and the free incision of the sac to let out the clot. The patient was given several doses of salvarsan and made a good recovery, as far as the aneurism was concerned.

In August, 1917, this patient was rushed to the hospital in a state of collapse, with a diagnosis of hemorrhage in the abdomen, as he had complained of a severe pain in the region of his liver before he became unconscious from the loss of blood. His abdomen was quickly opened and at least two quarts of clotted blood was removed, and a very perceptible oozing was seen welling up in the right lobe of the liver. The hemorrhage was controlled by two mattress sutures and a gauze pack. The hemorrhage was undoubtedly from a branch of the hepatic artery and represents the third such case recorded. Patient made a good recovery and with specific treatment gained thirty pounds in four months.

In May, 1918, the same patient was admitted the third time for aneurism of the tibial artery. The aneurism ruptured before he reached the hospital. The aneurism was packed with gauze and gradually removed; no further surgical attention given at that time, but patient remained in the hospital four months.

February, 1919, fourth admission to hospital. Diagnosis of gangrene of all toes on left foot, due to endarteritis. Amputation of toes necessitated. And in March another operation was necessitated by gangrene of leg.

This patient's history, his radial aneurism, the hemorrhage in the liver, the aneurism in the anterior tibial artery, and the gangrene of

his toes, and later his leg, caused by general arterial disease, makes it almost certain that the hemorrhage in the liver must have been the result of a rupture of a small aneurism of one of the branches of the hepatic artery. The fact that it occurred in the substance of the liver, and that it was controlled by parenchymatous sutures (two mattress sutures) and a gauze pack, would indicate that only a peripheral branch was involved. This is the rare and exceptional feature of the case, because, while the literature of hepatic aneurism is rich in the reports of cases in which the main artery or its branches have been involved, the aneurisms have rarely, if ever, developed in the hepatic substance where the vessel is well supported by the prolongation of Glisson's capsule.

Of course, whether the hemorrhage was the result of a ruptured (probable miliary) aneurism, or of a simple breakdown of an atheromatous artery, has not been determined. While the hepatic artery, or its branches, have been ligated eleven times, there are only two cases in which this ligation was done for aneurism of the artery or its branches (Kerr and Tuffier.)

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### INOPERATIVE CANCER AND OTHER CONDITIONS IN WHICH RADIUM IS INDICATED.

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By William D. Haggard, M. D., F. A. C. S.,  
Nashville.

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Radium is the rarest, the most precious, and therapeutically the most powerful of all of the elements. It is a black oxid of uranium, and was discovered in 1898 by Madam Curie, as a constituent of pitchblende. Due to the slowly changing uranium atoms, it is a disintegration product. In very old ore it is estimated that 3,000,000 grams of uranium are necessary to form one gram of radium element. The demand for radium became greater than the production from pitchblende, but a new substance was found during the latter part of the nineteenth century, called "car-

nolite." It was found in Colorado and Utah. It is a uranium salt. Prior to 1914, quantities of carnotite were shipped to Europe to be utilized in the production of radium. In ore containing two per cent of uranium, two hundred tons are required to produce one gram of radium.

Radium possesses the property of radio-activity. By radio-activity is meant the property of certain substances of giving out spontaneous rays which will affect a photographic plate, cause fluorescence in certain substances and render air a conductor of electricity by "ionising" it. Radium not only gives out rays but gives off continuously a radio-active gas called the 'emanation.' In these rays and emanations we have helium, alpha, beta and gamma rays. This radio-active property is thought to be due to the decaying or breaking down of radium atoms giving off positive atoms. It is estimated that half the amount will have decayed in two thousand years, and half of the remaining half in another two thousand, and so on.

The alpha, beta and gamma rays are similar to x-ray and light rays. Their physical properties differ, depending upon their wave lengths and the velocity of "electrons." The wave length is less than that of x-ray, which has a wave 10,000 times shorter than the wave length of light. The shorter the wave length, the harder and more penetrating are the rays. Since this is true, the longer rays can be stopped by certain dense substances, and the shorter or more penetrating rays pass on. Thus we filter the rays through rubber, silver, aluminum or lead, depending upon the effect desired. The alpha and beta rays have a tendency to produce irritation and are filtered out. The shorter waves, or gamma rays, are of great therapeutic use, because of their peculiar selective action on cancerous tissues.

During the last few years radium has very rapidly won for itself great therapeutic value. In malignancy it has given most wonderful results, but as yet is in its infancy. From results already obtained, its future is beyond question. It has come to stay.

A report of the work carried out at the Radium Institute in London during the year 1917 showed that 6,232 treatments were given.

In this report only inoperative cases were treated, except in cases of rodent ulcer. The cases consequently were of the very worst type. Hydrated radium bromide was used, a salt containing 53.6 per cent of radium element. Some of the more important conditions treated were:

All types of malignant growths;  
Fibroid tumors of the uterus;  
Enlarged prostate;  
Lymphatic leukaemia;  
Leucoplakia;  
Naevi—capillary, cavernous;  
Moles, warts, papillomata;  
Tuberculosis of glands, skin and joints;  
Keloids and vicious cicatrices;  
Lupus erythematosus;  
Psoriasis, pruritus.

The results of radium treatment of sarcoma are, generally speaking, more satisfactory than any other form of malignancy. If treated in the early stages, the results are most gratifying. These tumors should be treated by insertion of tubes directly into the tumor substance and by external radiation as well. It has been found that the best and most satisfactory results are obtained in liposarcoma, and the disappearance of these tumors is marvelous. Sarcoma of the nasal and post-nasal space respond most satisfactorily also. Melanotic sarcoma has been found to be less amenable to treatment.

Dr. John G. Clark is authority for the statement that uncomplicated, painless fibroid tumors, in young women, which are under the size of a three months pregnant uterus, are best treated with radium. This limitation means that all large fibroids, degenerating fibroids, those with complications, inflammation or infection, are treated most successfully by surgical measures. It is perfectly wonderful, however, the way the small tumor will undergo involutional changes and will be especially rid of the hemorrhage that often attends a fibroid. A 50 mgr. tube screened with lead and rubber tubing is introduced into the cavity of the uterus. If this is impracticable, into the posterior fornix. Then later the radium may be applied on the abdomen or over the fundus of the uterus. The total exposure should not be less than from thirty to sixty



hours, and may probably have to be repeated in five or six months. In many cases there is definite shrinkage of the growth, and in a higher percentage of cases still, there is, as has been pointed out, a very satisfactory diminution of the hemorrhage. When the exposures are repeated three or four times, an artificial menopause may be produced. Hypertrophic endometritis is now not considered a pathologic condition, but a normal physiological congestion in the menstrual cycle. The treatment of profuse menstruation in those cases where there is no gross pathology has in the past been unsatisfactory. In cases of a small myoma, conservative surgery hesitates to employ radical procedures on young patients. Wickham showed that the beta and gamma rays of radium produced an endarteritis which would go on to obliteration of the vessels. This led Abbe, in 1905, to make the first application of radium into the uterine cavity to control bleedings in a case of fibroids in a patient 49 years old.

The effect of gamma rays on ovarian tissue is still under dispute. Horowitz has shown that in two or three days following the exposure of ovarian tissue to the x-ray and gamma rays of radium that the mature graafian follicles break down and in ten days the follicles are almost entirely destroyed, thus preventing the development of a corpus luteum. Another viewpoint (Kelly and Burnam) is that the decrease in the size of the fibroids and the cessation of hemorrhage is due to the anemia produced after the vessels are obliterated.

Radium was first used in the Mayo clinic in 1915 to control the menorrhagia of the menopause, in cases which presented no gross pelvic lesion, and in cases of fibroid with definite contraindication to surgery. Since then the classes of cases to be treated by radium have increased. Radium is the treatment of choice in all cases of menorrhagia of the menopause in which malignancy is definitely ruled out and in which there is no condition, such as a soft myoma, which may degenerate into carcinoma. Also in the profuse menstruation of young women, and when a small submucous fibroid is present, when no gross pathology is found, and in cases of large myoma where there is prohibitive surgical risk.

The dosage varies as to the age of the patient and the presence or absence of a tumor. In a young person, where menstruation is to be preserved, 50 milligrams for four to five hours; in older patients, where it is desirable to stop the flow, 50 milligrams for ten to twelve hours.

Dr. Stacy reports a series of 510 abdominal myomectomies at the Mayo clinic in which there have occurred 23 full term pregnancies and one miscarriage. Seven were pregnant at the time of the investigation, making a total of 31 (12.3 per cent) pregnancies occurring after myomectomy. For this reason, the treatment of choice of myomata during the child-bearing period is myomectomy.

In inoperable cancer of the cervix radium has supplanted the Percy cautery, because radium is simpler, easier to handle, causes less pain and gives as good, if not better results. Carcinoma is the most resistant tumor to radium we have to deal with. A fifty milligram tube, however, will kill carcinoma cells for a distance of 4 c.m. if left sufficiently long.

Janeway has recently made out a very strong case for the use of radium in inoperable cancer of the cervix. He has collected over 5,000 cases of cancer of the cervix removed by the radical Wertheim operation. Of this number, only a little over one-third were operable. The mortality was nearly one in five, and the cure of five years' standing was hardly 20 per cent of all cases operated upon, but only about one-tenth of those who were found to have cancer of the cervix were by operation. This is a very melancholy showing, but is nothing new to the surgeon. Personally, I have operated upon a large number of cases of cancer of the cervix, and I think I could easily count those that are alive over five years on the fingers of one hand. This is in striking contrast, of course, to cases of cancer of the fundus. Under those circumstances permanency of cure is about 75 per cent. The reason is found in the fact that there are no glands in the fundus and hence no dissemination of the carcinoma, and one can make a complete hysterectomy with the assurance that in practically the majority of cases all the disease is removed. Unfortu-

nately, in cancer of the cervix, with its enormous number of glands, the disease is rapidly metastasized, certainly before the surgeon has the opportunity to see them, as a rule, hence the extremely disappointing showing that has been obtained in cancer of the cervix by surgeons the world over.

Kelly and Burnam have made the most extensive use of radium in this country and have done so under very favorable conditions. They report the results on the treatment of 213 patients, 14 of whom were operable. Of these operable cases, four were treated with radium alone and are all well, two for a period of two years and two for a period of one year after the treatment. The remaining ten of the operable group were operated on first and afterward treated with radium. All were well at the time of the report, at intervals of six months to three years after the treatment. Janeway considers "that these results are suggestive, when it is considered that after operation alone there is a recurrence in 75 per cent and in 60 per cent of the cases in the first year. One hundred and ninety-nine patients treated were inoperable at the time of the treatment; these include inoperable primary growths and inoperable recurrent cases. Fifty-three of this group are clinically cured and 109 markedly improved. Of thirty-five patients of this group, all primarily inoperable, three have remained well for four years, two for three years, and seventeen for over one year. Eighteen primarily inoperable recurrent growths of this group are now clinically cured, one patient over six years, another over four years, eleven over two years, and ten over one year. In other words, fifty-seven of 213 patients with cancer of the cervix, four operable and fifty-three inoperable, have been cured by radium; that is, all of the operable cases and 26 per cent of cases considered inoperable at the time of their treatment."

Recasens, of Madrid, at first used radium only upon those cases which were too advanced for operation, or in which operation was contraindicated, but his uniform success makes him no longer hesitate to treat early cancer of the cervix with radium. He states that if in inoperable cancer in which an actual

extension to the parametrium exists, so that the possibility of a cure by operation can no longer be entertained, one can obtain a cure by radium in 60 per cent of the cases, it is only logical to believe that in early circumscribed cancer of the cervix a cure by radium is more certain. He contrasts the gravity of the Wertheim operation, with its primary mortality of 10 to 15 per cent in the hands of the best surgeons and its secondary mortality after the lapse of three to five years of 40 to 50 per cent, with the comparatively safe and simple procedure of treatment by radium with its "100 per cent of cures" in this stage. His belief that 100 per cent of the early cases are cured by radium is based on the fact that every one of sixteen such cases, which he has treated, has undergone a complete retrogression and a number of these have already completed three years since the treatment was applied.

Janeway also says: "When we consider that at a conservative estimate 8,000 to 9,000 women die of carcinoma of the uterus each year in the United States, and that a search as elaborate as can be made through the published reports, including, as the *Journal of the American Medical Association* has done, circular letters sent out by the *Journal of the American Medical Association* through the South and West, the United States, finds only sixty-one women operated upon five years prior to 1916, who have been cured of carcinoma of the cervix uteri, can any consideration justify the postponement of the general use of radium in the treatment of uterine cancer?"

His conclusion is that "our present evidence indicates that radium destroys the disease at this site to a greater distance than the knife is capable of removing it, and does this with no risk or inconvenience to the patient and only a small tax on the skill of the surgeon. Every effort should, therefore, be made to secure its general use throughout the country."

Young, of Baltimore, reports sixty-six cases of the prostate treated with radium. In all the cases the glass tube was encased in a platinum capsule 1.5 mm. in thickness. In these cases there are three ways by which the disease may be approached—urethra, bladder and rectum. The urethra forms a splendid

avenue of attack, and the radium is inserted in the prostatic urethra by means of a metal instrument similar to a cystoscope. In some cases as much as five hours radiation have been given at one time, the position of the radium being altered every hour. When the growth is treated through the rectum the object is to give from 1,500 to 2,000 mgm. hours in the course of six weeks to two months. At the end of this time there are usually signs of rectal irritation. It is then discontinued and resumed after the last symptom of irritation has subsided. Some of these cases also received external treatments. He concludes that the use of radium in cases of cancer of the prostate and seminal vesicles has resulted in many cases, not only in marked symptomatic improvement, but in reduction in the size and consistence of the tumor. In several of the treated cases coming to operation, microscopic sections of the prostate show extensive destruction of cancer cells throughout large areas. In other areas the structure of the tumor is altered and the cells are in varying stages of degeneration. He thinks that the histological picture is very encouraging and that possibly radium may have a curative effect on some of them. In cases where the bladder is involved, his results have been unsatisfactory.

Radium is a most valuable agent in the treatment of keloids. Pure keloids can often be obliterated by such small amounts of raying as to cause very little or no inflammatory reaction. Those keloids which are mixed with scar tissue are not so radio sensitive, but they, too, disappear with large doses. The pain which in many instances is associated with keloids disappears with the keloid. This is very important, as pain is sometimes the most prominent symptom. Frank E. Simpson, in reporting the results of radium treatment in some dozen cases concludes that they are superior to those obtained by other methods. He says that practically the selective doses which may cause the keloid to disappear give way to destructive doses. He employs a dose sufficient to produce a mild reaction, but avoids larger doses that might cause an "excessive reaction," for such reactions are not required and have a tendency to cause telan-

giectasis. In favorable cases the keloid is replaced by a tissue almost like the normal skin. The site of the keloid may be smooth and white or sometimes a little redder than normal. In his series there has been no case where there was "absolute resistance to the action of radium."

Lupus erythematosus is notoriously a disease that has been very intractable, but the results with radium have been very encouraging. In selected cases Simpson has been able to obtain a complete involution of the disease, but there may be relapses. Relapses, however, in his experience have responded to further treatment. Since the applications are painless, the treatment can be carried out with vigor. The technic has much to do with success. Even in cases where, owing to long standing disease, scar tissue has disfigured, the radium has given satisfactory results, and the cosmetic effect is at times quite good.

Angiomas respond to radium better than to any other therapeutic agent. In certain types of angiomas, radium offers the only practical means by which it can be treated. Large flat angiomas, the "port wine stains," are treated in many instances with satisfactory cosmetic results. They are treated by giving just enough radium to produce erythema and desquamation. The radium in these cases probably causes an obliteration of the vessels. Since the treatments are painless, it is an ideal method to use in young children. With certain types of cavernous angiomas in children the tumor can sometimes be leveled and reduced without any signs whatever of an inflammatory reaction. This again shows the specific action of radium on the blood vessels.

Radium is regarded at the Radium Institute in London as almost a specific for rodent ulcer. In basal-celled epithelioma on the face, the results of radium have been extremely satisfactory.

Radium—that is, the hard beta and gamma rays of radium—seems to act most favorably on scars. They are altered under its influence and become soft and pliable, and (indeed, the surrounding tissues become freed from the hard mass of tissue which existed before treatment. Radium has a powerful effect on this tissue as well as on the blood supply.



## CONCLUSIONS.

1. The therapeutic application of radium is in its infancy, but indications are that its growth will be of increasing therapeutic benefit in the treatment of tumors, new growths, benign or malignant, and in the progress of certain other diseased conditions, as lymphatic leukemia, etc.
2. It has been proven of value in the treatment of certain superficial diseases of the skin and mucous membranes, lichen planus, lupus erythematosus, cicatrices, painful affections of the skin, moles, papillomata, warts, angioma, pigmented naevus, rodent ulcers, epitheliomata, etc.
3. Many benign tumors situated favorably are very satisfactorily treated with radium, as certain fibroids of the uterus, and some cases of adenoma of the prostate.
4. Inoperable malignant tumors and growths are greatly benefited by its application. Sarcoma, best; carcinoma of cervix, next; and lymph-adenoma, carcinoma of lip, tonsil, esophagus, antrum and prostate are sometimes best treated by radium.
5. Radium used intelligently in conjunction with modern surgery and medicine will aid much in lessening the suffering and in lengthening the lives of many of our fellow-men.

## SOME OBSERVATIONS ON CATHARTIC MEDICATION.

By George M. Niles, Ph. G., M. D.,  
Atlanta, Ga.

The term "cathartic" is modified in degree as to the amount of intestinal peristalsis produced, a mild amount being termed "laxative," a greater amount "cathartic," while one producing a severe and perhaps exhausting peristalsis, is termed a **drastic** cathartic. The **degree** of intestinal peristalsis produced by an agent or drug defines it, and, therefore, no drug may be termed any one of these unless the dose is taken into account.

The cathartic effect may be produced by direct stimulation of the nerves of the intestines, by irritation of the intestinal mucosa, by osmosis, by liquefying the intestinal con-

tents, or by stimulating the central nervous system.

Eserin exerts its laxative effect by stimulating the central nervous system, and has been used subcutaneously. Its action is somewhat uncertain. The dose is from 1-100 to 1-50 grain.

Hormonal, a peristaltic hormon isolated from the spleen, is reported as having exerted strong and effective peristalsis in several cases of post-operative intestinal paralysis. It should be injected into the muscle in doses of 5 to 20 c. c. This should be followed with castor oil a few hours later.

The cathartic agents, medicinal and otherwise, are legion, and only those will be mentioned which are specially used in digestive disorders.

Among the mildest laxatives are compound licorice powder, one or two tablespoonsful being given at bedtime, powdered rhubarb, 5 to 20 grains at bedtime, and aromatic fluid extract of cascara, of which one teaspoonful may be given. These preparations, in the doses mentioned, usually move the bowels in eight or ten hours, without pain or discomfort. Much like these is the fluid extract of senna, though slightly stronger.

Phenolphthalein is a most eligible cathartic, acting much in the same manner as the salines, but seldom causes griping, tenesmus, or other disturbance. The dose varies from 1 to 5 grains, and it is commonly combined with other cathartic agents with advantage. The good and reliable effects of this drug have been utilized by the manufacturers, and many preparations with phenolphthalein as their active principle, are available. Some of these are attractive in appearance and pleasant to take, but possess little advantage over capsules or tablets containing the plain powder.

Calomel has been highly esteemed for many years, but lately it has been the subject of iconoclastic attacks, and at present its only secure place in gastrointestinal conditions is to thoroughly evacuate the bowels. It can be combined to advantage with phenolphthalein, podophyllin, rhubarb, and others, and is best given in divided doses about an hour apart.

The bitter fluid extract of cascara is more energetic, and in doses of ten to thirty drops may be depended on to evacuate the bowels unless there is some mechanical obstruction.

If a somewhat decided, even drastic, effect is desired, there may be given powdered extract of colocynth,  $\frac{1}{2}$  grain, aloin,  $\frac{1}{2}$  to 2 grains, resin of podophyllin,  $\frac{1}{4}$  to 1 grain, or resin of jalap,  $\frac{1}{4}$  to 1 grain. As these drugs are likely to cause much griping and pain, it is well to combine with them as a corrective a little extract of belladonna or Dover's powder.

Castor oil is a reliable and efficient evacuant, probably being used by the laity more than any other. It acts both by intestinal irritation and lubrication, and in doses of two teaspoonfuls up to 2 ounces, or even more, will generally empty the bowels, unless there is some decided obstruction. When a very large dose is given, the excess is carried off with the feces practically unchanged. Because of its nauseous taste, many object to it very strenuously, but this may be disguised fairly well with a little whisky, wine, or extract of sarsaparilla.

Liquid paraffin, an oily hydrocarbon, holds a useful place as a mild laxative. It may be given alone or combined with aromatics in doses of 4 to 8 drams, or even more, and when taken regularly in small doses for several days, gives good results in spastic constipation or constipation from strictures in the intestines. A very good way to administer liquid paraffin is in two-tablespoonful doses, three times daily, half an hour after meals, until movements of the bowels set up, when the dose may be gradually reduced. Occasionally, in obstinate constipation, a larger dose may be required, and may be given without fear of untoward consequences.

Croton oil, in one-drop doses, may be given in an emergency, but is too severe and drastic for ordinary use.

Agar-agar, first introduced by Adolf Schmidt, acts by virtue of its power to absorb water, and also as a mechanical stimulant. In the form of "regulin" it may be easily obtained, and given either alone, or

preferably with such foods as cereals, as it is tasteless. Its administration should be preceded by a single dose of castor oil or compound licorice powder, after which a full teaspoonful may be given three times daily until regular evacuations set in, and then gradually reduced.

Following are a few eligible cathartic prescriptions:

R.: Pv. aloes, gr. xx; ext. belladonnae, ext. nucis vom., aa gr. iii; Ft. pil. No. XX.

Sig.—One or two pills at night.

R.: Aloini, gr. 1-3; Strych. sulphatis, gr. 1-60; Est. belladonnae, gr. 1-8; Pv. ipeac, gr. 1-12; Ft. pil. I.

Sig.—At bedtime.

R.: F. E. Cascarae arom., F. E. Sennae, each oz. i.

Sig.—One or two teaspoonfuls at bedtime.

R.: F. E. Cascarae, oz. ii; F. E. Podophyllin, dr. ii; F. E. Sennae, dr. vi.

Sig.—One teaspoonful at bedtime (quite energetic).

The various salines and saline waters have their uses, generally as hydragogue cathartics, and are best administered on an empty stomach. The Epsom, Rochelle and Glauber's salts are well known, and most of the highly vaunted laxative salines, either in solid or liquid form, now on the market, owe their virtue to the presence of these three.

The granular effervescent preparation of phosphate of soda is most useful, combining both hydragogue and cholagogue properties. It is indicated in autotoxic conditions and catarrhal inflammation of the gall bladder or duet.

Where it is desired to give a saline for some time, the following will be found efficient, causing neither griping nor distress, and producing copious watery evacuations:

R.: Magnesiae sulphatis, Potassii bitart. (C. P.) each oz. ii.

Sig.—Two to four teaspoonfuls in half glass water on arising. (This will need to be reduced in a few days.)

The foregoing, the writer trusts, will convey to the busy practitioner some worthwhile suggestions concerning the important subject of cathartic medication.

## REPORT OF A CASE OF CONTRACTURE OF BLADDER FOLLOWING CHEMICAL CYSTITIS.

By John E. Hall, M. D.,  
Nashville.

R. L. W., a merchant, age 43, came to me with this story. Three months previously, while a patient at a well known institution, taking treatment for the cure of the whisky habit, being permitted to go out in town, he acquired a gonorrhea.

It happened that he had a friend, a physician, who was also a patient at the same institution. This physician offered to cure him of his gonorrhea, so together they went to an uptown pharmacy and bought a fountain syringe, rubber catheter and a quarter of a pound of potassium permanganate crystals, and on their return to the sanitarium the doctor emptied the entire quarter of a pound into a pitcher containing a half gallon of hot water and dissolved as much as would go into solution. He then emptied this saturated solution into the fountain syringe, suspended over a bath tub, had the patient take off his clothes, get into the bath tub and lie flat on his back. The doctor then introduced the rubber catheter into the bladder and, attaching it to the fountain syringe, proceeded to fill the bladder with the solution. The result was that the patient immediately fainted, the officials of the sanitarium were summoned, an ambulance called and the patient rushed over to a nearby hospital. He states that he was in a semi-comatose condition for three days, and that he had many convulsions.

A certain surgeon being called in by the hospital authorities did a supra-pubic cystotomy, claiming that it was necessary in order to keep the bladder drained and washed out, notwithstanding the fact that there was no urethral obstruction and that a 30 F. sound passed easily. It may have been that the condition of the urethra from the chemical irritation was such as to have prevented washing out the bladder through the urethra.

The man was confined to the hospital for about six weeks. When he came to me he had to urinate every 20 to 30 minutes, and

said that when the desire came on that he was unable to hold his urine at all, and was continually wetting his trousers. He had been passing blood up to within ten days of the time I first saw him. On examination, I found that his bladder would hold less than two and one-half ounces. On account of the exceedingly irritable condition of the bladder, together with the diminished capacity, I did not attempt cystoscopic examination.

The urine contained many pus cells, desquamated epithelia, red blood cells and many bacilli coli. Specific gravity 1020, acid in reaction and turbid in appearance.

On account of the urgency and painful urination, I put him on alkalies and belladonna internally, and began washing the bladder twice daily with a warm boric acid solution. This caused intense pain for the first week, but after that he was able to stand it without much suffering. At the beginning of the third week I began using 1-16,000 silver nitrate instead of the boric solution. I gradually increased the strength of the solution and forcibly distended the bladder by hydrostatic pressure to its previous capacity at each treatment. This caused some bleeding in the beginning. I also instructed him to hold his urine as long as he possibly could every time he felt the desire to urinate.

At the fourth week, I began treating him once daily, as his urine was beginning to clear up and the cell count to diminish. The bladder capacity was beginning to increase and he had gained control over urination. His bladder by the fifth week held over five ounces, so I made a cystoscopic examination. Around the neck and trigone the congestion was very marked, the mucous membrane was swollen, and intensely red in color. Over the trigone there were ulcerated patches varying in size and color. Some were fiery red, while others had a grayish gangrenous appearance. There were ulcerated areas scattered all over the walls, and the bladder was trabeculated. On account of pain, I had to make a hurried examination, and besides there was bleeding, which obscured the vision to a certain extent, in spite of continuous irrigation.

From the fifth week on the improvement



was gradual, and at the end of the third month he could hold ten ounces of urine without any great amount of pain.

Cystoscopic examination at this time showed that all ulceration had about healed and that the inflammatory condition had disappeared together with the trabeculations, and as he was an out-of-town patient, I let him go home, instructing him, however, to use a 1-6,000 silver solution daily to distend the bladder. He kept this treatment up for six months, at the end of which time he could hold about fifteen ounces. He was in my office in October of this year and says his bladder never gives him the least bit of trouble.

If this man's bladder had not been forcibly distended by means of hydrostatic pressure over a long period of time, he would have had a permanently contracted or atrophied bladder, and probably incontinence of urine.

I forgot to state that the radical treatment accorded him in the bath tub cured him of his gonorrhea.

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#### PREVALENCE OF SYPHILIS, AS INDICATED BY THE ROUTINE USE OF WASSERMANN REACTION.\*

By Wm. M. Bryan,

Passed Assistant Surgeon; and

Jas. F. Hooker,

Acting Assistant Surgeon, United States  
Public Health Service.

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The Wassermann reaction is steadily coming into more common use, and its value as a routine procedure is being more fully appreciated. A number of reports of such routine examinations have been made, notably one by Dr. Albert A. Homer (Boston Medical and Surgical Journal, Feb. 10, 1916) on 500 cases at the Massachusetts General Hospital, in which he found that 17.4 per cent of the patients tested gave a positive reaction.

For the purpose of comparing such findings and also to determine the incidence of

syphilis in a certain industry, it was decided to obtain a similar series from seamen admitted to the Boston Marine Hospital and to compare this with the records of previous years, when the Wassermann had been used only occasionally, and with other years when it had not been used at all. The higher syphilitic morbidity in our series than is usual in general hospitals is probably fully accounted for by the fact that only adult males are treated at marine hospitals.

Since February, 1916, blood has been drawn from every one admitted and the serum obtained by centrifuging sent to the Hygienic Laboratory at Washington, where the test was made. Up to October, 1916, 312 cases were thus tested, and 77, or 24.7 per cent, were positive. Readmissions and faulty specimens have been excluded from this series, and doubtful reactions have been considered negative.

Of the 77 positive cases, 19 were obviously syphilitic, having either marked secondaries or other symptoms on which a definite diagnosis could have been made without the use of a Wassermann. If these 19 cases be excluded the percentage will be reduced to 18.6 in the apparently nonsyphilitic. On the other hand it should be noted that 11 cases obviously syphilitic gave a negative reaction because of recent treatment and had these cases been included with the 77 positive cases the total incidence would be raised to 28.2 per cent.

Beginning in 1911 the Wassermann reaction was used at the Boston Marine Hospital as an aid to diagnosis in doubtful cases, and the records show that from that date to 1916 2,863 cases were admitted and 468 Wassermans taken, of which 191 were positive, 260 negative, and 17 doubtful, and that in these years 9.1 per cent of all cases admitted were diagnosed as syphilitic.

Reports for the five years 1907-1911 show that 4.3 per cent of all cases treated in hospitals of the United States Public Health Service were diagnosed as syphilis. During this period the Wassermann reaction was used seldom, if ever, so this is probably a fair average of the easily recognizable cases among patients at Marine Hospitals.

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\*Reprint from the Public Health Reports, Vol. 31, No. 47, Nov. 24, 1916, pp. 3230-3231.

The value of the serum test in the diagnosis of syphilis is now universally admitted, and the fact that the reaction may be positive in the absence of this disease or negative in its presence does not detract from its practical value. It is also well recognized that more negative reactions occur in the presence of syphilis than positive reactions in its absence, and this is true especially in the obscure so-called parasyphilitic cases, as has been demonstrated not only by the other reactions, such as the gold chloride test, but also by the post-mortem findings.

From the above data it would seem fair to conclude:

1. That the prevalence of syphilis is much greater than is shown by ordinary hospital and medical records, and that by the routine use of the Wassermann reaction a large percentage of cases which certainly could not be diagnosed without it, will be recognized and properly treated.

2. That for the protection of the public health, to say nothing of the relief of much individual suffering, state and city laboratories where the Wassermann test can be obtained without cost should be universally established, and physicians and the public at large should be educated to its use in the same way that they have been educated to demand examination of sputum for tuberculosis.—U. S. Public Health Reports.

### A LESSON IN CONTAGION.

**How a Case of Scarlet Fever in Georgia Devastated a Family in Montreal.**

**A Story With a Moral.**

Up in Woodford County, at the little town of Goodfield, there was a family consisting of a man and wife and ten children. The wife of one of the sons lived with her husband's people. A happy family, for all we know, numbering thirteen young and old. The war came and one of the boys went into the army and was in camp in Georgia when he was stricken with scarlet fever. As an aftermath of the disease, this young soldier developed inflammation of the middle ear with the

disease of the mastoid, and the father went to the camp to visit him. Perhaps it was assumed that the initial scarlet fever was over and that the danger of contagion was passed. At any rate, the father visited the boy and returned to his home in Illinois.

On March 3, about two weeks after his visit, the father died from what was regarded as a virulent pneumonia. On the same day two of the children, aged five and fourteen, were seen by a physician and were found to be suffering from a disease which appeared to be scarlet fever. Two days later both of these children died.

On March 8, five days after the father died, a boy eleven succumbed to the disease, while on March 12 another girl of the family died, and on April 4 occurred the death of a twenty year old young woman.

In the meantime five other members of the family developed scarlet fever but recovered after severe illness. Whether some or all of these will suffer from the serious after-effects of scarlet fever it is impossible to say.

The remaining two children had been removed to the home of relatives at the beginning of the father's illness and these escaped the disease entirely, as did the wife and mother of the family, she being the only one who remained in the household who did not acquire scarlet fever.

As a result of the scarlet fever in the camp in Georgia the members of this family are now buried in a grave near Goodfield, in Woodford County, Illinois. Six children are left fatherless and the mother finds herself a widow with her six children to provide for.—Illinois Health News.

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**HELP YOUR COUNTY SECRETARY  
MAKE HIS REPORT EARLY IN THE  
YEAR BY PAYING YOUR DUES  
AT ONCE.**

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# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

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DECEMBER, 1919

## EDITORIALS

### GREETINGS.

May the Christmas bring you much happiness, and may the New Year bring you health and strength to meet with full measure of success all the responsibilities which may be yours.

### OUR APOLOGIES.

We are sorry indeed that the Journal has been going to our readers late each month for several months. This has been due to factors which we could not control. The great lay magazines of the country have been having their troubles—and so have we had ours.

It is hoped that the New Year will right many conditions. We will continue our best efforts to get out the Journal on time, and are encouraged to believe that we may succeed.

THE EDITOR.

### FROM OUR PRESIDENT.

This being the closing month of the year, the time for all kinds of business to "close up" and open the door to a new year, I would like to call the attention of the profession of the state to the fact that it is necessary for the physicians to handle their business affairs as business men.

The secretaries of the county societies should remind their members that it is the time for paying their dues, and for electing their officers for 1920. It has been well said that county societies are as good as their secretaries, and no better, and with few exceptions that is true. But in fact a secretary is no more responsible for a successful society than any one of its individual members. I

want, therefore, to insist that each and every member of every county society come up at once and pay his dues, and solicit all eligible doctors who are not members to become so at once, in order that we may all reap the greatest possible amount of good from organization. The county society to the ordinary practitioner is a splendid postgraduate school. It is in these society meetings that we get the most rare ideas and suggestions from the "common" doctor, who will let himself be heard in the county society, but who would not get into print for the world.

Another good thing coming from the county meetings is the good to be had from the social side. My experience has taught me that by association and contact I learn to love the men who are trying to work as I am, who have toiled, suffered and withstood the disappointments which come to no other class as to the doctor. We must know each other in order to appreciate each other, and there is no other way by which we can do this except through the county organization.

I am anxious to see the 1920 enrollment of the Tennessee State Medical Association larger than any other year since the state organization was effected, eighty-six years ago.

Let every member who reads this proceed at once to arrange for getting his county society on foot, and his dues paid for next year, and let everyone feel that the success of the organization depends upon him. We are the only organized body of business men in the world whose organization does not have a money object for its basis. We are sometimes accused of meeting only to raise fees, and classed along with the unions and strikers of this country, but this is not true, and none but the ignorant will make such accusations.

A merry Christmas and a happy New Year to all the readers of this Journal!

Meet me in Chattanooga in April.

A. F. RICHARDS.

Sparta, Tenn., Dec. 6, 1919.

### DON'T SEND THEM AWAY.

The Anti-Tuberculosis Association of Denver, Colo., has sent out a statement which should have wide distribution, especially



among physicians in states east of the Mississippi river. It has to do with the sending of tuberculous persons to Western states with the idea that some miraculous quality of the atmosphere will relieve them of their disabilities and that they will be quickly restored to that condition of health which will enable them to make their own way. The truth is that there are now large numbers of consumptives in certain western and southwestern states who are dependent upon the charity of those states and who are doomed to die far from home and friends.

There was at one time a prevalent belief in the value of "climatic" treatment of tuberculosis, and the idea was firmly fixed in many minds that if a tuberculous person could only be gotten to Denver or to San Antonio or to some other place with a "dry climate" or a "high altitude," that all would be well with him. While this belief is not now so generally held, still the constant dumping of consumptives from eastern states into western states keeps up, and thereby have these latter named states had an outrageous injustice perpetrated on them. The truth is that the old high-dry idea is wrong. It is only the exceptional case of tuberculosis that will do better in Colorado than in Tennessee. And certainly no consumptive should be sent anywhere, unless he is able to pay his way, to buy what he must have in addition to "climate."

The proper place for a consumptive is in a hospital designed and equipped for the treatment of tuberculosis and operated by physicians and nurses who know how to conduct such a hospital and how to treat consumption. The western states, to which so many of our tuberculous have been sent, are not provided with hospitals enough to accommodate their own. No state has any right to inflict upon another state its diseased and disabled, many of whom are sure to become charges on public charity.

And, while we are about it, let us say that hospitals alone will never win against tuberculosis. We doubt the wisdom of establishing a state tuberculosis hospital. Rather should there be hospitals owned by individual counties or groups of counties and privately owned hospitals for those who can pay for

the service in such institutions. But there must be more than hospitals. Every state should adopt and prosecute a definite and far-reaching policy for the control of tuberculosis. No state needs to do that thing more than does Tennessee. The last published figures concerning the tuberculosis death rates in the United States show that only one state has a higher rate than Tennessee.

But we started out to decry the practice of sending tuberculous patients who cannot maintain themselves to distant states. It would be better to leave them nearer their friends, even until such time as the great state in which we live can be brought to provide means for their proper care.

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### JEFFERSON COUNTY MEDICAL SOCIETY.

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The Jefferson County Medical Society met at Jefferson City on December 2, 1919. The death of Dr. G. W. Kinder, president of the society, which occurred since the last meeting, was announced by Dr. B. F. Brown, who occupied the chair.

Dr. J. Victor Henderson, of Memphis, was present as the guest of the society, and read a paper on "Normal Labor," which was discussed by Drs. Dukes and King. Dr. H. E. Christenberry, of Knoxville, also our guest, presented a paper on "Catarrh," which was discussed by Drs. Campbell, Dukes, Henderson and King. A vote of thanks was tendered Drs. Henderson and Christenberry for the excellent papers read by them.

Dr. H. L. Campbell, Strawberry Plains, was elected to membership, and the application of Dr. Turner Caldwell was received.

Drs. B. M. Tittsworth, H. L. Tarr and N. M. Dukes were appointed a committee to prepare resolutions on the death of our late president, Dr. G. M. Kinder.

Action was taken by the society providing for monthly meetings, to be held alternately, at Jefferson City and Dandridge, on the first Tuesday of each month.

Officers were elected for 1920 as follows: President, Dr. N. M. Dukes; vice-president, Dr. H. L. Campbell; secretary-treasurer, Dr. B. M. Tittsworth; censor, Dr. H. L. Tarr.

Subjects for the next meeting, at Dan-dridge, on the first Tuesday in March, 1920, were assigned: "Pleurisy," Dr. B. M. Tittsworth, and "Emuresis," Dr. D. J. McCarter.

N. M. DUKES, President.

B. M. TITTSWORTH, Secretary.

Jefferson City, Tenn.

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### THE AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS.

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Efforts to improve and standardize the qualifications of those desiring to put themselves forward as specialists in ophthalmology were seriously undertaken five or six years ago by the Section on Ophthalmology of the American Medical Association, the American Academy of Ophthalmology and Otolaryngology and the American Ophthalmological Society, and they crystallized in the formation of a board, under the above title, which is composed of three members from each of the three societies. This board has been at work three years, and has issued its certificate to nearly 150 ophthalmologists. The certificate is given only to those who apply for it, and while the plan is to ultimately require every applicant to pass the examination, for the present it is given "on the record" to certain men of established reputations, whose public work and contributions to the literature are of such a character as to make it apparent that they are well qualified. A gratifying number of Tennesseans have received the certificate, and the time is coming when its possession will be necessary to anyone desiring to practice this specialty.

After 1920 no one can become a member of either the Academy of Ophthalmology and Otolaryngology or American Ophthalmological Society unless he has this certificate, nor can he appear on the program of the Section on Ophthalmology of the American Medical Association. The American College of Surgeons has appointed the members of this board its credentials committee for those who desire to qualify in ophthalmic surgery, and the object of this notice is to acquaint the profession with the existence and purposes of this board. The possession of this certificate means that the holder has been carefully con-

sidered by the board, and they find that he is qualified by training and by the manner in which he has profited by that training, to practice ophthalmology. The applicant is required to submit certain information as to his training, together with a number of case reports, and at the discretion of the Board, he is then required to pass an examination. This examination consists of a short written test, and a more comprehensive practical one. The candidate is given an opportunity to show, by the examination of patients, that he is familiar with the recognized procedures necessary for diagnosis, the use of the ordinary instruments of precision, and not only that he can make a diagnosis, but that he knows how to procure the information necessary to make it. The practical examination covers refraction, muscles, perimetry, pathology, ophthalmoscopy, external diseases, therapeutics and the relation of the eye to general diseases. The examination takes one day, and the testimony of candidates who have taken it is that it is a fair but thorough test of their knowledge of the subject.

The time has come when the rest of the profession should be familiar with the operations of the Board, and with the fact that there is an agency at work which will put them in a position to know who of those who profess to have special knowledge of the eye and its diseases are justified in their assumption. The work of the Board will be greatly helped when medical schools and hospitals consider its certificate in making their appointments, and it is not too much to hope that the time will soon come when it will be required of those who seek hospital and teaching positions.

—E.

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### A GREAT GIFT TO VANDERBILT.

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On November 26, just one day before Thanksgiving, Chancellor James H. Kirkland announced the gift to the School of Medicine of Vanderbilt University of the princely sum of \$4,000,000 by the General Education Board. As we are informed, this is the greatest gift yet made by this Board for the purposes of medical education.

In announcing the donation, Chancellor

Kirkland paid most deserving tribute to the work of the faculty of the medical department of the University, and stated that the thoroughly unselfish attitude assumed by the faculty had much to do with the determination of the splendid donation.

This magnificent contribution to the cause of medical education in the South will have far-reaching effect on the general teaching of medicine and on the public health.

Vanderbilt University is to be congratulated upon having a chancellor and a medical faculty whose ability and whose devotion to medical education have inspired the confidence which led the General Education Board to take action which will establish a great medical school in Nashville.

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### **AN INDUSTRIAL NURSE FOR THE STATE ANTI-TUBERCULOSIS ASSOCIATION.**

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Miss Jane Mooney, one of the best industrial nurses in this country, has finally decided to accept the offers of the Tennessee Anti-Tuberculosis Association and is coming to Nashville to strengthen the staff of that society, according to J. P. Kranz, executive secretary of the Association. Miss Mooney, while her experience covers a number of years with the big industrial concerns of the East and Middle West, is young and exceptionally attractive and capable. Mr. Kranz said, in announcing her acceptance.

In the Middle West Miss Mooney has been in the employ of the International Harvester Company, the Pullman Company, Armour & Company, and shortly before entering tuberculosis work she was in charge of the entire nursing and welfare staff of the Illinois Steel Company, which is one of the largest subsidiaries of the United States Steel Company.

Her nursing experience and training covers every branch of medicine, and following her resignation from the Navy Yard Hospital at Mare Island, California, she completed a course in public health nursing and social service at the Chicago School of Civics and Philanthropy, one of the largest institutions of its kind in America.

"The addition of an industrial nurse to the staff of the Tennessee Anti-Tuberculosis As-

sociation shows how broad the work of this organization is," said Mr. Kranz. "During the past year one of our nurses spent a month with the Aluminum Company of America at their gigantic plant at Maryville, Tenn., assisting in the organization of the social service and welfare departments of that company.

"This convinced us that we should retain a nurse who will be of service to the corporations of this state who ask for her assistance and advice. Miss Mooney has also expressed her willingness to give a course of lectures on industrial service at Peabody College. She is an exceptional woman, and will do great work in bettering the health of the workers of this state."

At the present time the Anti-Tuberculosis Association has a staff of four nurses. Three are canvassing the state, fighting tuberculosis and other diseases, and the fourth, Miss Emma Belle Stevenson, is giving a course on public nursing at Peabody College, where the association headquarters are located.

The Tennessee Anti-Tuberculosis Association is the pioneer health society of Tennessee, and for many years has co-operated with the State Boards of Health, Charities and Education. It is supported through the annual sale of Red Cross Christmas seals, sold throughout the state at Christmastide. This year the Association expects to sell 20,000,000 of these seals to finance the fight against tuberculosis during the coming year.

The money raised in the annual seal sale is to be expended in Tennessee, bettering the public health. In endorsing the campaign, Gov. A. H. Roberts said that the campaign should be a success, as it was one of the best movements ever organized in this state.

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### **FROM THE STATE REGISTRAR.**

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In accepting the position of Registrar of Vital Statistics for Tennessee, I was thoroughly aware of the fact that I was assuming, in a way, responsibilities that depended not alone upon my own efforts and ability, but on the cooperation of the doctors of the state as well. Since I have assumed the duties, and become somewhat acquainted with their nature, the imperative need of co-operation is



becoming more apparent daily. If the Bureau of Vital Statistics is to grow and expand and to serve the ultimate purpose for which it was intended, we want, and we need, the support, the encouragement, and, indeed, all the blessed influences of every doctor in the state.

At present we are securing ninety per cent, or more, of the death certificates, but the birth registration is lamentably low. Some of the doctors and many midwives are responsible for this condition. On them rests most of the responsibility. Failure to file a birth certificate within ten days is a violation of the law (see Chapter 30, Acts of 1913). So it is not only a responsibility, but a duty, according to the law of the state.

It is my duty as State Registrar to report such failures to the Attorney-General of the district in which they occur, for investigation and prosecution, but after having practiced medicine more than fifteen years, I have faith enough in the doctors of Tennessee to make me believe that such action will seldom be necessary. For the sake of vital statistics, for the sake of the profession itself, its good name, and for the sake of obedience to the laws of the state, report your births.

Yours very truly, H. L. BAUGH,  
State Registrar.

### A CALL FOR NATION-WIDE HEALTH CONSERVATION—U. S. PUBLIC HEALTH SERVICE ANNOUNCES PLANS.

Preventable disease cost the United States four billion dollars less in 1917 than it would had the health conditions of twenty years ago prevailed in 1917.

Four hundred thousand less deaths occurred in 1917 than would have had the 1900 death rate prevailed.

Annual illness of workers still costs this country two billion dollars each year.

One man in every three called by the Army was found to be physically unfit.

These figures were given out today by Surgeon-General Rupert Blue, of the United States Public Health Service, in urging a plan for nation-wide conservation of health and

calling on all health agencies to cooperate in a carefully prepared program.

Surgeon-General Blue has sent a letter to state and city health officers, to the head of the American Red Cross, the American Public Health Association, the American Medical Association, the National Tuberculosis Association, the International Health Commission, the National Safety Council, the American Child Hygiene Association, and other health agencies, suggesting a conference in Washington to consider a health program prepared by the Public Health Service.

The Surgeon-General points out that practically all of these agencies have under consideration some plan of health conservation and that unless the work can be co-ordinated and properly directed, little will be accomplished and there will be much over-lapping of effort and waste of funds.

It is emphasized that the success of the plan will be determined by its direct applicability to the conditions in the different local communities, and for this reason federal, state and local health officers must co-operate most closely in order to direct the campaign in each community and set a definite objective.

For instance, a Southern city would be more interested in a campaign against the mosquito and malaria than it would be in Rocky Mountain spotted fever. A Northern industrial city would be more interested in the control of pneumonia and respiratory diseases. All, however, have cancer, tuberculosis and venereal diseases; all would be benefited by public health nursing, medical supervision of school children, conservation of the lives of mothers and children, adequate sewage disposal, the provision of pure water and pure milk. So, while each city and rural community will have as a definite objective the most vital need in that particular place, the various health agencies will have definite objectives according to the particular problem they set for themselves to solve.

The health program to be submitted to the conference has been in preparation for months, experts of the Public Health Service long having foreseen the need of such a nation-wide effort. A preliminary announcement of the plan was made at New Orleans

at the recent meeting of the American Public Health Association, which gave unanimous endorsement.

Few realize what has already been accomplished in the field of preventive medicine, or what can be done by a carefully executed health program which is cumulative and continuous rather than spasmodic and desultory in character.

In 1900 the general death rate from all causes in the United States was 17.8; in 1917, the latest figures available, it had been reduced to 14.2. Had the 1900 death rate prevailed in 1917 there would have been in the United States, with an estimated population of 110,000,000, 396,000 more deaths than actually occurred.

The record of other years leaves little room to doubt what may be done in saving life. In 1900 typhoid fever caused a death rate of 33.8 per 100,000 population. In 1917 the rate had been reduced to 13.4. Diphtheria was reduced from 35.4 to 16.5 in the same period. Tuberculosis declined from 190.5 deaths per 100,000 of population in 1900 to 146.4 in 1917. Had the 1900 rate prevailed in typhoid fever, diphtheria and tuberculosis, in 1917 these three diseases alone would have caused 91,740 more deaths than actually occurred.

The Public Health Service is led to believe that its health program is feasible owing to the fortunate co-operation and successful termination of the extra cantonment work which was carried on so efficiently by the American Red Cross, state and local health authorities, and the U. S. Public Health Service. The lesson taught by this splendid demonstration of team work should not be lost to the country. For this reason( the American Red Cross, which has set aside millions of dollars for health work in the United States, has been asked to take an active part in translating the health program into action. Its thousands of local chapters are counted on to arouse and maintain interest in health work and actively co-operate with federal, state and local health officers in accordance with the announced policy of the American Red Cross to co-operate with existing health agencies.

tee on Medical Defense, sends the following statement concerning the number of members who paid the defense assessment for this year:

Anderson County	11
Blount County	10
Bedford County	12
Campbell County	3
Carroll County	5
Cumberland County	2
Coffee County	3
Dickson County	8
Davidson County	171
Dyer County	29
Franklin County	6
Gibson County	17
Giles County	9
Greene County	5
Grundy County	4
Hamblen County	13
Hamilton County	69
Loudon County	5
Henderson County	5
Henry County	4
Hikman County	1
Jackson County	8
Jefferson County	8
Knox County	99
Lincoln County	7
Lauderdale County	26
Haywood County	1
Marshall County	10
Macon County	7
Monroe County	14
Madison County	28
Maury County	3
Montgomery County	10
McNairy County	8
Obion County	7
Overton County	8
Putnam County	11
Rhea County	3
Roane County	11
Robertson County	5
Rutherford County	2
Scott County	6
Shelby County	169
Sumner County	10
Tipton County	21
Washington County	12
Weakley County	12
White County	15
Williamson County	8
Wilson County	4
Warren County	2
Smith County	1
Total	927

All assessments for 1920 should be paid on January 1, 1920.

#### PAID MEDICAL DEFENSE FOR 1919.

Dr. S. R. Miller, Chairman of the Commit-

## NOTES AND COMMENT

Dr. P. K. Lewis, of Doyle, has returned from an extended trip prospecting in the states of Arkansas, Texas and Oklahoma.

Dr. Daniel Haggard, of Bedford County, has moved to White County and has located at Doyle. He is recently from the service in France.

The White County Society met Thursday, December 11, in Sparta, at which time Dr. E. C. Jenkins read a paper on "Diabetes." Officers were elected and dues paid for 1920. The profession in White County is in good condition, and will have sixteen members for next year. There are only two men in the county who are not members, and they are very old and about retired.

The new building of the Baird-Dulaney Hospital was formally opened at Dyersburg on December 7.

At the meeting of the Sullivan-Carter-Johnson County Medical Society, on December 3, the following officers were chosen for 1920: President, Dr. W. W. Vaught, Shouns; vice-presidents, Drs. G. E. Campbell, Elizabethton, T. E. Staley, Bristol, and J. R. Butler, Mountain City; secretary-treasurer, Dr. W. K. Vane, Bristol.

Dr. W. S. Dotson, secretary of the Wilson County Medical Society, always one of the first to report, sent in the names and dues of nine members for 1920 enrollment early in December.

## MISCELLANEOUS

### A DOCTOR'S DAY.

I've heard it said, and it's true, no doubt,  
That to follow for a day a child at play—  
Follow his footsteps, indoors and out,  
Is enough to make a good saint pout.  
Tracing childish footsteps is pretty sport—  
Let's follow a doctor of the medical sort.

Sometimes he never gets to bed for nights at a time;

Yet, without reason or rime,  
Folks always expect him to keep his head  
Or doctor theirs, if they happen to ache;  
And, although others sleep, he must keep awake.

A doctor is just a machine; and, as such,  
Why should he need rest or sleep very much?  
He's only out in stormy or other weather—  
What's dust or rain? They don't go together.  
A doctor is only expected to order pills,  
Or go miles at midnight to unpaid bills;  
Or fondle and praise the ugly new baby  
And get paid after while—and then, only, maybe.

"Oh, doctor, please hurry to come cure baby's  
chill!  
And fix Willie's fall off the window sill;  
Come tell us why babies sleep so sound,  
Or else turn the clock so fast around?  
That all night long they want to frolic,  
And "Do all healthy babies get the colic?"

And then, when Willie has older grown:  
"Tell me, doctor, why does Willie travel alone  
He surely is an angel child,  
While other boys are crude and wild.  
Why is sister Mary so thin?  
You must doctor her and him."

Most children, whether rich or poor,  
Their "growing" pains must endure;  
For all children thrive in the usual way,  
With minor hurts acquired at play.  
If Percy Rich just gets a splinter  
In summer heat or dead of winter,  
His mother does get so excited  
Until these little hurts are righted;  
And if one should mention a common "germ,"  
The mere idea makes her children squirm.  
Ting-a-ling! The telephone!  
"Gladys Rich just broke a bone—  
No, she didn't—it's just a sprain;  
Gladys is quite well again."

And then people of new riches  
Always complain of nervous twitches;  
Here and there an ache or two,  
Giving doctors more to do.  
For new-rich folks are so possessed  
With ailments new to keep abreast;  
"High blood pressure" sounds so "swell"—  
Folks who have it all look well.

And then, woman—bless her heart!—  
Must always play a major part—  
Have a stylish ailment, too,  
Do the thing that's "smart" to do.  
Appendix ills are out of date,  
Something new is at our gate.  
Next, the man when business jars



And wife's been buying high-priced cars.  
 Gets very ill—bad cold or hoarse—  
 He must find a good golf course; ;  
 Some place a thousand miles from home,  
 Where a nervous man can rest alone—  
 Alone with golf and a bunch of men,  
 And swat that golf ball once again.

And whenever a doctor takes time to die,  
 As even the busiest M. D. must,  
 St. Peter heaves a joyous sigh,  
 And broadly scatters gold angel dust.  
 Though the doctor may have "wandered" far,  
 Peter widely throws the gates ajar—  
 Throws wide the gates and ushers him in,  
 With boisterous welcome and music's din,  
 He gives a doctor must gorgeous robes,  
 And never into his "past" he probes,  
 For a doctor's soul is purged right here—  
 And God's highest heaven, his rightful sphere.

—Blanche N. Murtland.

### SKIN AND DIAGNOSIS.

The value of the skin in the diagnosis of many constitutional conditions is pointed out by M. F. Engman, St. Louis (*Journal A. M. A.*, Nov. 22, 1919). Skin diseases are usually treated outside of hospitals, and their significance is, therefore, not so much appreciated. No one can properly study skin diseases or understand their pathology thoroughly, unless he can appreciate all conditions relative to the case, and this can only be insured in a well regulated and well equipped hospital, with the co-operation of a trained internist. There are certain inherent conditions, congenital or inherited, which throw a flood of light on the patient's condition. For example, the exudative diathesis, the first symptoms of which is eczema, appears early in life and marks the infant a clinical entity. It is seen on the cheeks or body, to be followed all through life by adenoids, asthma, bronchial conditions and enlarged glands. Sensitization in infancy may be at the bottom of this condition. Improper feeding may show itself on the skin by a dry, scaly condition which may induce traumatic eczema. Heaping up of cells on the follicles about the extremities may point in early life to hypothyroidism. Presenility may be graphically shown in the disease known as xeroderma pigmentosum and indicates the premature senile

skin. Age is indicated on the skin, as well as by the arteries, and it is curious to note how these senile changes occur in certain families. The skin on the back of the hand is always a true gauge of the wear and tear of the body. The earliest signs of approaching puberty are shown on the face by the little comedo on the cheeks or nose or increased oiliness of the skin in that region, but we are often taught to look at diet here as the cause, as well as in acne vulgaris. The intrafollicular flora of the skin is awakened to new life by some chemical change in the body. Among the blood-borne conditions reflected by the skin, Engman refers particularly to hypothyroidism, which he has had abundant opportunity to observe and of which the cutaneous symptoms are enumerated at length, such as presenile changes, erythema, myxedematous pads, loss of hair, seborrheic dermatitis, pigmentary anomalies, etc. The erythema group is always deserving of study and thorough clinical investigation. The eruption is always produced by something brought to the skin by the blood stream. Lupus erythematosus is frequently one of the types of the erythema group and may be accompanied by tuberculosis. Raynaud's disease is one of these conditions due often to a germ, instead of to vasomotor disturbances, as usually stated. The plantar surfaces of the feet and palms of the hands are often aids in diagnosis of hypothyroidism, arteriosclerosis, diabetes, etc. The skin lesions only reflect, at points of irritation and frequent motion, the condition of the blood which contains cholesterol in excess—fatty acid esters which irritate and infiltrate the cells.

### FETAL DEATH.

J. G. McQuarrie, San Francisco (*Journal A. M. A.*, Nov. 22, 1919), reports a study of 119 fetal deaths in a series of 2,215 deliveries in the University of California Hospital, and 502 in their homes. Reckoning from the period of possibility of viability (the thirteenth week) there were ninety-seven fetal deaths. Within the restriction given, the fetal mortality was 3.6 per cent. As there were two deliveries of twins, there were only 117 mothers

in the series who lost their babies. A table is given classifying the causes. There were fifteen cases in which syphilis is given, all the mothers having been under specific treatment during pregnancy. These cases were diagnosed by a strongly positive Wassermann in the mother, syphilitic changes in the placenta or definite syphilitic lesions in the infant. There were seventeen deaths from unknown cause, in ten of which there was a macerated fetus. Even classing these macerated cases as syphilitic, there are still seven in which no cause could be given. Birth trauma caused thirty-six deaths, some of them probably representing inexperience, but the majority were unavoidable. There were nine cases due to prolapsed cord, one was not discovered until two pains before delivery. One pulsating cord might have been replaced, and interference was not attempted in another because of a previous complete rectovaginal laceration, through which liquid feces constantly poured into the vagina. The breech cases were carefully reviewed, without seeing possibility of better results, except in one that was spontaneously delivered at home before the physician arrived. Combining the forceps and prolonged labor cases, contracted pelvis was found in seven. The patient of this type is either brought into the hospital in advanced labor or else in the test of labor it gets beyond the point where ideal treatment is possible. Four of these might have been saved. One mother had been given two doses of pituitary extract before delivery with high forceps. There was no record of previous pelvic measurement. Another patient had been allowed to continue six days in labor before interference. Another might have been saved by Cesarean section, and in another case three doses of pituitary extract had been given before low forceps delivery. In another, twilight sleep was attempted in a woman with simple flat pelvis, labor was greatly prolonged, and was finally terminated by pubiotomy, high forceps, wide episiotomy and craniotomy. In three other cases indecision and delay co-operated to cause death. There were nine cases of toxemia. There are always patients entering hospitals who have had no prenatal care, and moreover eclampsia often

occurs without warning. Fetal abnormalities caused eight deaths, all being stillborn except one, a hydrocephalic child which breathed abortively. There were only five cases of prematurity, no other cause being found. Two cases of placenta prævia are reported, and among the various other causes of one or two deaths one was from previous separation of the placenta. A case of abdominal pregnancy was diagnosed some weeks before operation, but because of the difficulty with so large a fetus of controlling hemorrhage it was allowed to go over term, as it could not be saved anyhow. The mothers made a good recovery. Particulars of other deaths are shown in tables, together with other items of interest such as the relation of the mother's age, greater frequency of death in primiparas, etc. The high percentage of breech presentations is noticed (24.8 per cent). The majority of the macerated fetuses presented the breech. All the unusual presentations are given in the tables.

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#### AMERICAN DIGITALIS.

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Before the war most of the digitalis used here came from Germany and Austria, a little from England. J. H. Pratt and Hyman Morrison, Boston (*Jour. A. M. A.*, Nov. 22, 1919), give their results with the use of American digitalis, and review the previous literature of its experimental use. Eight samples were tested, received from Oregon, Washington, Wisconsin and Ohio. The one hour frog method recommended by the Pharmacopeia was used. Six of these eight fulfilled the requirements of the Pharmacopeia. Later they made assays of digitalis tinctures from the drug grown in various parts of the country, from wild plants and from those commercially raised. Details are given of the results obtained by themselves and others, and the comparisons with foreign digitalis, together with data as regards climate, soil, etc. They have come to the following conclusion: "The best American digitalis, both wild and cultivated, is equal in activity to the best European digitalis. Specimens of high potency have been obtained from Virginia, Nebraska, Wisconsin, Minnesota, Oregon and Washington. The

majority of samples of American digitalis examined were of low potency. No less than seventeen out of twenty-five samples of American digitalis were below the standard of strength established by the Pharmacopeia. The average strength of the American digitalis, however, was greater than that of the imported digitalis we have examined. All digitalis should be tested biologically before it is gathered in large quantities for therapeutic use."

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### TUBERCULOSIS.

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Some etiologic studies of tuberculosis by Lawrason Brown, S. A. Petroff and Gilberto Pasquera, Trudeau, N. Y., are published in the *Journal A. M. A.*, Nov. 22, 1919. The subject, they say, is not a closed one, and the dicta of many authorities have been blindly accepted by their followers. On close scrutiny it is seen that many statements rest on inference rather than on fact. They, therefore, made a number of experiments on guinea pigs to trace the tubercle bacillus, if possible, from the source of infection to the apparently exposed animal. The final test, of course, was the necropsy of the guinea pig. Since Hance found tubercle bacilli in the dust of a room on the floor of which a patient had spat, several attempts to find these bacilli have been made at the Trudeau Sanatorium. The dust collected by a vacuum cleaner from the large rug in the living room was negative on injection into the guinea pig, and the same result was obtained from the dust of a room occupied by a patient with numerous tubercle bacilla in his sputum, and whose cough was so explosive that the mouth was rarely covered. Other rooms occupied by those with severe cough and many tubercle bacilli in the sputum were investigated. The dust was collected before the daily cleaning, using sterile swabs on the furniture, bed-frames, corners and walls. "The swabs were washed in sterile broths, the washings treated with normal sodium hydroxid, incubated for one-half hour, then neutralized with normal hydrochloric acid, centrifugalized, and the sediment divided into three portions. Of these portions, one was inoculated into gentian violet mediums,

another was stained in a slide for microscopic examination, and the third was inoculated subcutaneously in the inguinal region into guinea pigs, two for each swab. In all, twenty-four animals were used." This method was abandoned as the gentian violet mediums were contaminated, mainly by molds, and the stained slides were unsatisfactory, and the studies were carried on by inoculation only. The twenty-four guinea pigs were killed forty-one days later, and all organs, except a few enlarged bronchial glands and spleens, appeared normal microscopically. The suspected organs were macerated and inoculated into a second series, which were killed twenty-six days later, and were all negative for tuberculosis. The dust in two rooms in Saranac Lake Village, formerly occupied by patients both long since dead, was also negative. The mouthpiece of the telephone used in common by the patients at Trudeau was carefully swabbed out, and the results were negative. To test infection by inhalation, a special box was made in which a guinea pig was placed and kept in a certain position. It was attached to a vacuum cleaner and dust drawn through it for a half hour. The three guinea pigs used were not infected. Eating utensils used by patients with numerous bacilli in their sputum were also tested, and treated as in the first study. The spoons, forks, glasses and cups were contaminated with tubercle bacilli, but the knives and plates remained free, and, as Price had previously proved, ordinary washing and rinsing in very hot water is sufficient to sterilize these utensils. Two patients, with abundant sputum loaded with tubercle bacilli, were instructed to cough hard and frequently on their hands, which were then washed with sterile water. This water was afterward injected into guinea pigs, which were found with generalized tuberculosis at necropsy. Infection of a second person by hand-shaking or from a door knob rubbed with an infected hand, the washings of which were used for tests on guinea pigs, proved negative. The saliva was also studied from two patients, and injected into two guinea pigs, both of which became tuberculous. Successful inoculations of guinea pigs by washings from plates kissed by patients



with many bacilli proved positive, as did also the washings of a tooth brush. They succeeded, also, in contaminating flies, but they did not succeed in conveying their evident tuberculosis to experimental guinea pigs. One experiment was done with coughing into the faces of guinea pigs by two patients, but it was negative. The authors claim no originality for many of their experiments. The danger from infected utensils, telephones, hands, etc., was not conclusively proved. The experiments tend to belittle it. On the other hand, kissing or improperly cleansed hands and eating utensils have proved possible sources of infection.

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### AMPUTATIONS.

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A consideration of some of the problems of amputations is offered by C. L. Starr (Toronto), Ottawa, Ont. (*Journal A. M. A.*, Nov. 22, 1919), who as consultant and advisor of the Dominion Orthopedic Hospital, Toronto, has had special opportunity to study them. Aside from the physiologic factors pertaining to amputation cases it is the management of the stump and the selection of appliances to supply the lack of the lost member that most concern us. An ideal stump might be defined as one long enough for the maker to fit a good artificial limb, with a linear scar free from puckering or infolding of the skin, and a sufficient flap to cover the bone and a pad of fat and cutaneous tissue over its end. The joints above should have full range of motion. This ideal, however, is seldom realized, and the tremendous problem of infection in the war made impossible stumps to which to fit artificial limbs even if healing became complete; and a second amputation was called for. Later in the conflict this problem was better met and better stumps were obtained. All tissues harbor latent infection which may be aroused by massage and manipulations or accidents, and ulcer sometimes results from breaking down of scars. They should be excised and a linear scar substituted, often without any sacrifice of bone, but sometimes reamputation may be required. Starr gives the method of treatment of persisting sinuses, and exostoses which he is more and more con-

vinced are often due to detached fragments which become attached to the bone end. He is in the habit of using an antiseptic solution, previous to final closure, to wash out such fragments and so prevent trouble. Nerve buds or fibroneuromas cause much discomfort in some cases, but their mere presence, tender to pressure, does not warrant operative interference unless the bud is caught in the scar and liable to become irritated by contraction. Edema persists in most stumps for weeks after the wound is healed, and permanent appliances should wait until it has subsided. Pressure and massage of stumps may aid in its disappearance. Deformity is common in the joint above the amputation. For cible manipulation may be required in the severer cases. Too persistent loss of muscle power calls for training, and instructions are given here for the proper fitting of artificial limbs. The various types of amputation are discussed in order; the Syme amputation is theoretically and practically the best in the lower extremity, and yet it is surprising how many of these are faulty from too long a flap or too much shortening of the tibia and fibula. This can be remedied by taking a cuneiform section of soft tissue, thus diminishing the size of the walking pad. In the leg an amputation should not be done within a hand-breadth of the ankle, so as to give room for an ankle joint properly placed in an artificial leg. Above this point the longer the stump the better. Below the knee there is a point at which the stump is so short as to be useless. The Gritti-Stokes is the best of the thigh amputations, and is to be selected in preference to the knee-bearing. In the upper extremity satisfactory substitutes for the lost member have hardly been devised. Any digits that can be saved in useful position will be of great assistance, but if the tendons are hopelessly tied up, the joints may be advantageously sacrificed to give place to a hook or something of the sort. At the wrist, the whole carpus is a detriment rather than otherwise. When possible, the radio-ulnar articulation should be maintained, as it permits of the most useful movement of pronation and supination. The length of stump in the forearm is the chief factor in determining the useful-

ness of the arm, as each incho of stump adds to the leverage. In disarticulation at the shoulder, only a sleeve filler may be supplied, and it is not often wanted as it is hard to adjust and adds to the difficulty of dressing. A mechanical research department has been established in the Canadian reconstruction work, which has nothing to do with the factory output, but has accomplished much good in working out mechanical ideas and reconstruction problems. The peg leg is described. Complex artificial arms have not been found satisfactory, as they are heavy and, being made of metal, are cold, and call for frequent repairs. One or two types are described. The article is illustrated.

### UROLOGIC SYMPTOMS IN NERVOUS DISEASES.

A joint paper on the urologic findings based on the study of 500 cases of nervous and mental diseases, by J. R. Caulk, H. G. Greditzer, and F. M. Barnes, St. Louis, is published in the *Journal A. M. A.*, Nov. 22, 1919. They say that while the neurologic complications are constantly present and important they find no mention of them in the recent urologic text-books. Of the significant observations, the most important of which are loss of sexual power, relaxation of the vertical sphincter, and the bladder picture as revealed by the cystoscope, the last named is the most reliable. Cystoscopic findings in central nervous disease, especially those affecting the lower segments of the spinal cord, are so constant and characteristic as to prove their diagnostic importance. This is shown by the large percentage of cases in which they appear in the beginning, and in the many surgical diseases with bladder disturbances complicated by, or associated with, tabes. Most of the previous reports by urologists of such findings have emphasized the importance of trabeculations as being pathognomonic, without regard to the internal sphincter, while the authors hold that the internal orifice is equally decisive in diagnosis. With the cystoscope in the normal position, there is a feeling of relaxation. The posterior urethra is usually more tolerant, and in definite tabetics, as is

well known, often anesthetic. The first type of pronounced relaxation, with the guttering of the urethra and visibility of the verumontanum, is the characteristic and significant finding in cases of definite nerve lesions. The other types are less positive and seem to occur quite frequently, and it may be they are due to a general let-down in physical tone. The condition of the trigon is mentioned. Laterally, the trigon at its tips fans out into trabeculae, which spread out over the lateral wall of the bladder, and with this relaxation of the internal orifice of the bladder there is usually bladder trabeculation. In the series of 500 cases observed by the authors 186 cases were studied with Dr. Francis Barnes, psychiatrist of the St. Louis Sanitarium, one of the joint authors. The examinations were made with care, without prejudice, and, therefore, the other two authors were not aware of the nature of the mental disease. There were eighty cases of paresis, two cases of tabes with psychoses, nine of cerebrospinal syphilis, thirteen of nonsyphilitic organic brain disease, eleven of alcoholic insanity, eleven insane epileptics, forty-four cases of dementia praecox, six of defective states with psychoses, and twelve of manic depressive mania. Fifty per cent of the paretics showed positive cystoscopic pictures, as did also 38 per cent of the patients with exaggerated knee jerks, and also 74 per cent with absent or diminished knee jerks. It should be stated that it is claimed that 99 per cent of paretics have demonstrable spinal cord lesions, but they may not be sufficient to produce general symptoms, though still showing such bladder symptoms as described. Cases of tabes with paresis were 100 per cent urologically positive, and so were the other conditions indicating organic brain disease. In hemiplegia the picture was always positive. In alcoholism only one case of Korsakoff syndrome showed positive bladder picture. The remaining 312 cases were studied in the Washington University Medical School Clinic, at Barnes Hospital and in private practice. They comprise the routine types of organic and functional nerve disorder. Forty per cent gave previous history of syphilis or positive Wassermanns, and 75 per cent with cord lesions gave positive spinal fluid tests. Of

these, 46 per cent were definitely neurologic cases, and in 46 per cent of this number the diagnosis was first made in the urologic clinic. In 54 per cent of cases the patient consulted the neurologic clinic first, and in only 50 per cent of cases diagnosed by the urologists was it confirmed by the neurologist and about 5 per cent of unconfirmed cases have since developed nervous lesions. The diagnostic symptoms and findings are given in detail with percentages in each condition. As regards treatment, the authors say there is no type of urinary disease that has in the past received such insufficient treatment as the bladder disorders with central nervous affections. This is particularly true of tabetics. The treatment in these cases is directed by the authors against syphilis and is found thus most effective. The treatment of a bladder lesion, secondary to an old nerve case, must be understood to be entirely different from that following traumatism, especially in the employment of systematic catheterization. Otherwise it is similar. In the traumatic cases the automatic bladder will usually develop, but in the others, local treatment is essential. The authors hope that the profession will divert from the previous conception of the treatment for these patients, and animadvert to this form of therapy, which yields such relief.

### FRACTURES OF THE SPINE.

A series of seventeen cases of shell fracture of the spine, with observations on kidney and bladder function, have been studied by H. W. Plaggemeyer, Detroit (*Journal A. M. A.*, Nov. 22, 1919). The subject was taken up by the author with his full realization of the period of time that elapsed between the inflicting of the wound and his first clinical view of the case, connoting the transition from the primary shock with depression and retention to the later stages, "usually characterized as the stages of: (1) paradoxical, or passive incontinence; (2) periodic reflex micturition, or active incontinence, and (3) paralytic or complete incontinence, in which latter phase evacuation of the urinary bladder is continuous, automatic and complete." It

was in the later stages that the cases were called to his attention. The time after injury to his first observation of the case varied from two and a half to eight months, with a mean average time of four and a half months. All had been catheterized abroad and were infected. Many of them demanded catheterization. Under these circumstances, the author took the liberty of doing simple cystoscopy. All cases gave a history of complete retention following injury, and the onset of incontinence varied from twenty-four hours in five cases to six months in one. The patient had an indwelling catheter when admitted. Four others had apparently been catheterized as a routine. The mean average of onset of incontinence, barring these five, was forty-eight hours. The site of the lesion varied from the sixth cervical to the cauda equina, the lumbar being the site in nine cases, the dorsal in five, the cervical in two, and the sacral in one. Several of these overlapped. Rectal involvement was general and ran a course parallel to that of the bladder. Sexual desire and ability were lacking in all, one showed edema while observed. The clinical findings were practically unvarying and might be summed up as follows: 1. There was normal or hypertonic contraction of the external sphincter. 2. There was complete relaxation of the posterior urethra and the internal sphincter almost obliterated as such. 3. The trigon in six cases appeared definitely atrophic, in four it was raised. 4. The ureteral orifices were within range of normal. 5. Trabeculations were found in every case, gigantic in size, and, as a rule, transverse and coarse on the floor, rather evenly distributed laterally, and most complex about the vertex. 6. There was no case of diverticulitis or of trophic ulceration of the bladder. 7. In nearly all bladders there was general vasomotor disturbance particularly marked on the floor, chiefly shown by irregular venous congestion, but in none of the cases did the author observe hematuria. The level of the lesion apparently did not affect either the functional activity of the bladder or the excreting power of the kidney. In one case the bladder was of the typically automatic Head type, and passage of urine and feces was a completely



unconscious act. In no case did the author observe hyperhidrosis or forcible distention of the bladder, nor could he, in a single case, establish a history of it, though in every case except one there was a previous history of zonal hyperhidrosis. There was residual urine in every case. Dietary control was used and also phenolsulphonaphthalein tests. The patients were studied as to the nitrogen retention, blood urea, etc. A general picture was observed of unusually high urea nitrogen, with high nonprotein nitrogen and persistent normal creatinin in the blood, balanced by a low renal concentrating power for urea, with a low output of creatinin in twenty-four hours and low uric acid output; collaterally, a colorimetric curve rising, as a whole, where the retention curve falls. There seemed to be no essentially reciprocal curve between urea retention and phenolsulphonaphthalein excretion. There must be some other ground than hydronephrosis for the retention phenomena exhibited. While not discussing the early care, Playmeyer would suggest abstention from catheterization which means sure infection. If intervention is needed, there is no contraindication to the use of the aspirating needle until incontinence is established. This will probably not be necessary if immediate resort be had to the use of general sedatives with careful attention to stimulation of mass reflexes by stimulating over the hypogastric plexus and causing relaxation of the external sphincter by fatigue of the pudic nerve. These bladders do not rupture, and as they are insensate, no discomfort is experienced. The seventeen cases are reported.

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### DANGER FROM POLLUTED WATER SUPPLIES.

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It would seem that the dangers from polluted water supplies are too well known to the general public to render further discussion of them necessary. There are on record innumerable epidemics due to polluted public and private water supplies. Some of these have been of very great magnitude. Most of the large cities in the United States in past years have had such epidemics and as a result there is not now any large surface water

supply in the United States that is not either purified or so completely protected as to make wholly impossible the delivery of polluted water to consumers. Nevertheless, there are in the state of Illinois forty-nine water supplies that the State Department of Public Health classes as "bad" owing to the danger of contamination. In many communities that have such bad water supplies, the general public does not seem to be aware of the dangers because they have not as yet had a severe water-borne epidemic. The use of a water supply subject to pollution does not necessarily mean that the water supply will continuously cause disease. The disease comes only when the supply is infected by the specific germ of typhoid fever, paratyphoid, or any of the other water-borne diseases. Then an epidemic is caused of explosive violence that may affect the major portion of the population of the city, as was the case in Rockford, Ill., only as far back as 1913.

A number of the smaller towns of the state (fifty, to be exact), obtain water from surface reservoirs and deliver it to the consumers without purification. As a practical proposition it is impossible to adequately protect these reservoirs so as to absolutely prevent any pollution entering the water. An individual defecating on the reservoir banks, small boys swimming in the reservoir, filth washed in from roadways and barnyards all may result at any time in the contamination of the reservoir with specific germs of disease. The State Department of Public Health, therefore, states unqualifiedly that these water supplies can never be rendered safe unless the water is adequately purified. Sterilization of the water either with bleaching powder or liquid chlorine should be employed. This at least renders the water harmless to health, but it does not remove the objectionable physical characteristics such as mud, bad tastes and odors. It can, however, be readily applied under any circumstances at trifling expense. The cost need not exceed \$2.00 per 1,000,000 gallons at present prices for bleaching powder and chlorine. As the average small town uses less than one-fourth million gallons per day, it will be observed that the cost is practically negligible.

Much more effective, however, is the use of filtration, by which the water is rendered clear, colorless and odorless. Filtration is not an experiment, but has been successfully used for many years. All of the large cities drawing their water supplies from the Mississippi, Ohio and Missouri rivers now have filtration plants in successful operation. In Illinois there are at the present time about forty filtration plants. While filtration itself may be relied upon to produce a safe water under competent management, the State Department of Health calls the attention of local authorities to the fact that their public water supply is polluted as evidenced by numerous analyses made in the department's laboratories, representation is made that the people do not use the water for drinking purposes, but rely upon shallow wells. It is important to emphasize the fact that such a condition does not materially minimize the danger first, because in every instance that has been investigated by the State Department of Public Health, it is found that where there is a public water supply available from taps, that some persons will drink the water. It may be urged that if such persons do drink the water, they do so at their own risk, and on their own responsibility. Such is not the case, however, for there are many ignorant people and many new comers in town who are not aware of the danger of drinking polluted water, and if these people become diseased, they constitute foci of infection for the spread of disease to other persons by other means. In the second place the results of hundreds of analyses of private wells on file in the laboratories of the State Department of Public Health show that nearly all shallow dug wells in built-up communities are subject to contamination, and while the danger from the average well may be less than a public water supply drawn from surface sources, nevertheless the danger is still very great, as is evidenced only recently by a severe epidemic of typhoid fever in Tuscola, definitely traced to a polluted well. This epidemic produced over two hundred cases of disease not only among residents of Tuscola, but among visitors to Tuscola. It is significant to note in this connection that the well had been used

for many years without dangerous results, but finally when specific germs of typhoid fever reached the well, a severe epidemic occurred that threw the entire community into a state of panic. It was only through prompt action on the part of the State Department of Public Health that the cause of the disease was located and corrective measures instituted.—Illinois Health News.

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### THE COMPLEXITY AND COST OF MODERN DIAGNOSIS.

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It has frequently been stated that scientific medical diagnosis and treatment are a privilege accorded only to the very poor and the very rich. The recent establishment of diagnostic clinics and diagnostic institutes indicates that the principle of group practice is being recognized to a greater extent that has heretofore been the case. The general hospitals have for many years been diagnostic institutes for group practice, a fact which is sometimes not remembered by those who proclaim that group practice represents a new principle. The diagnostic institute of the present day is, however, not a hospital, but an ambulatory clinic, the idea being that many patients who do not care to go to hospitals and who do not need to do so can have their ailments studied at such an institution. A perusal of the charges for service made by some of these institutions indicates that while they have doubtless solved the problem of medical co-operation, they have not completely solved the financial problems of the patient. The fee for a general examination is a modest one well within the reach of the average citizen who falls into neither the pauper class nor the group of the wealthy. More complicated examinations, such as are necessary in patients with obscure diseases, cost a sum which in many instances would be quite beyond the means of the average wage-earner. The question of obtaining efficient medical diagnosis and treatment for cases of obscure disease among those who can pay only a modest fee is one of the live questions of the day. It is doubtful whether it can be met by diagnostic clinics unless they are heavily subsidized organizations along the lines of the ex-



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isting dispensaries, but differing from them in the fact that a small fee is charged. Attempts have been made to meet the situation in this way, but as yet there has been no widespread effort to care for the man of moderate means. As individuals of this group furnish the great bulk of patients, some machinery must be devised which will enable them to receive inexpensive but adequate care when they develop obscure diseases.—*Jour. A. M. A.*, Nov. 22, 1919.

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### VACANCIES IN ARMY AND NAVY MEDICAL CORPS.

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As stated elsewhere, there are 710 vacancies in the regular medical corps of the army and 429 vacancies in the regular medical corps of the navy for young physicians who wish to undertake this work. Under the present law, reserve officers on active duty may be continued on such duty with their consent until July 1, 1920. The departments are also permitted to assign officers for temporary service until that time. For this reason the large vacancy list does not indicate any distress on the part of the service or immediate need of men to fill these positions. However, with the passing of the emergency covered by the law, both services will require young men to fill these positions. The reason for these resignations is of course understood. It is not dissatisfaction with the service, but the fact that the increasing cost of living makes the present pay absolutely inadequate. Fortunately, there are now in Congress bills for increased pay to officers of the military service which will permit the corps to offer more attractive opportunities to interested young men, and it is likely that as soon as these bills pass—which they undoubtedly will—numerous young men will wish to avail themselves of the opportunities offered by these permanent positions. Those interested should communicate at once with the Surgeon-General of the Army or Navy, with a view to having on hand complete information so as to carry through the application, examination and appointment with the least possible delay.—*Jour. A. M. A.*, Nov. 22, 1919.

### CAN DIPHTHERIA MORTALITY BE REDUCED?

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Despite the fact that diphtheria antitoxin is practically a specific, one out of ten cases of diphtheria terminates in death.

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### MARKING THE SKIN.

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In a note in the *Journal A. M. A.*, Nov. 22, 1919, W. A. Pusey says the difficulty in marking the skin which is sometimes experienced can be obviated by using an ordinary copying pencil after moistening skin with water. With this method it is perfectly easy to outline an area with a distinct violet line. Such markings can be made even on a sterile surface by first washing the end of the pencil in a concentrated solution of mercuric chloride, and the skin being moistened with a sterile solution. The mark can be readily washed off with soap and water. The purple lines can be photographed, but not very well.

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### LOCAL REGISTRARS OF VITAL STATISTICS (Continued).

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**Bradley County.**—Civil District No. 1, Will H. Crox, Charleston, Route 1; Civil District No. 2, Civil District No. 4, G. W. Humphreys, Cleveland; Civil District No. 3, T. A. Willson, Charleston.

**Campbell County.**—Town of LaFollette, Dr. U. S. Carden, LaFollette; Civil District No. 1, Mrs. W. J. Meador, LaFollette; Civil District No. 2, Dr. Jas. Willoughby, Agee; Civil District No. 3, Dr. R. L. Gallaher, Caryville; Civil District No. 4, Jessie H. Baird, Elk Valley; Town of Jellico, Dr. D. W. Moore, Jellico; Civil District No. 5, D. H. Rosier, Newcomb.

**Cannon County.**—Civil District No. 1, Doss Car-

ter, Readyville; Civil District No. 2, W. K. Keele, Woodbury, Route 4; Civil District No. 3, J. J. Nichols, Readyville; Civil District No. 4, J. E. Young, Woodbury; Civil District No. 5, Civil District No. 13, E. M. Bowman, Morrison, Route 5; Town of Woodbury, Civil District No. 6, outside of Woodbury, E. S. Robertson, Woodbury; Civil District No. 7, W. D. Stewart, Woodbury, Route 5; Civil District No. 8, T. J. Winnett, Woodbury, Route 3; Civil District No. 9, Fred Hale, Woodbury, Route 2; Civil District No. 10, E. T. Melton, Gassaway; Civil District No. 11, Dr. B. H. McKnight, Milton; Civil District No. 12, John Robinson, Bradyville; Civil District No. 14, M. B. Davenport, Woodbury, Route 1; Civil District No. 15, Joe B. Watson, Woodbury, Route 5.

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# **THE JOURNAL**

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### **TREATMENT OF DYSMENORRHEA.**

By C. N. Cowden, M. D., F. A. C. S.,  
Nashville.

At the meeting of the American Medical Association last June in Atlantic City Dr. Litzenberg, of Minneapolis, read a paper before the Section on Obstetrics and Gynecology on "The Treatment of Dysmenorrhea," in which he advocated the use of benzyl benzoate. There is not one of us here today who does not know how futile and disappointing have been our efforts to get any satisfactory results in this very common complaint.

Since women have entered the industrial field, the question of dysmenorrhea assumes a greater significance, because it must be taken into consideration in estimating the ability of the employee to render service during the entire month, rather than be incapacitated for a week from this cause. Our authorities claim that from 50 to 80 per cent of American girls suffer severely during this time, and we all know there is scarcely a school, store, office, factory or private home that is not interfered with on account of women being either reduced in efficiency or entirely incapacitated during the period of their menstruation. So we can readily see that this so-called minor gynecologic condition has great import because of its almost universal frequency, its economic influence and its baneful effect on the health of the individual. In places where large numbers of females are employees, it has become a question of great concern to employer and employee, aside from the physical pain and

suffering endured by the patient. When we ask our patients the question, "Does menstruation interfere with your usual duties?" I think we can safely say that it will be answered in the affirmative by at least 75 per cent of young women. To the question, "Do you have to go to bed?" 50 to 60 per cent will answer that they are bedfast from two to four days.

We call dysmenorrhea a minor gynecologic condition as if every one knows everything about it, but our text-books utterly fail to enlighten us as to its etiology, pathology or its treatment; yet all of us are well acquainted with the symptomatology and the influence it has on the well being and comfort of our patient.

Every case seems to be peculiar unto itself, but our failure to give relief fits them all. We can talk about the different types, such as the obstructive, the ovarian, the exfoliative, the spasmodic and that due to demonstrable pelvic pathological conditions; but this is poor therapy when it comes to giving relief to the patient. Many a young life has almost been shipwrecked upon this reef, and there is a large number whose lives are a burden, either from suffering during menstruation or the dread of it during the interim. Endless methods, drugs, procedures, operations, appliances, et cetera on ad infinitum, have all been at one time or another suggested, accepted, tried, and rejected, leaving us still groping in the dark for something that will give relief. Dilatations, curettements, self-retained stem pessaries, suspension of the uterus and the employment of electrical currents to the genital organs have all been tried and found all but

useless. Inhibiting the hyperactivity of the ovarian secretion by cocaineizing or cauterizing the genital spots, located by someone in the nasal passages, or neutralizing the excessive secretion with epinephrin, was good to talk learnedly about, but soon fell into disrepute for lack of any relief afforded the sufferer. Emenagogues, sedatives, stimulants, antispasmodics, narcotics all through the list have been tried and abandoned. Fortunes have been made on patent medicines that have been directed to the relief of this condition, because our patients were not getting relief from their medical advisers. The only two remedies that ever gave us any definite relief were morphia and whisky, and they are the very ones that should not be used, because we all know they are too potent and too harmful drugs to place in the hands of our patients fourteen times a year.

Litzenberg reported a series of forty-three cases of dysmenorrhea, in the treatment of which he secured almost magical results with benzyl benzoate. What is benzyl benzoate? David L. Macht, a pharmacologist of Baltimore, has succeeded in isolating another group of alkaloids from opium. One group, of which morphine is the principal member, he found has a stimulating effect on smooth muscular substances and will increase both contraction and tonicities on such structures as the bladder, the intestines, the biliary ducts, the uterus and the pylorus; while the benzyl benzoate or acetate, the most commonly used, will inhibit or sooth the muscular contraction and lower the muscle tonus. He also found that when a small amount of the benzyl alkaloid was given with morphine, the stimulating effect of the morphine upon these muscle structures was overcome, and its narcotic effect was very much increased. It is a well known fact that the opium with all of its alkaloids is more efficient in relieving pains of a spasmodic character than is morphine; and Macht says that when the total opium alkaloids are given together there is produced not only the narcotic or analgesic effect of the morphia, but the tonus lowering or antispasmodic influence of the benzyl group of the alkaloids also.

The tonus lowering or antispasmodic effect of the benzyl group led Litzenberg to inves-

tigate this therapeutic effect upon certain clinical conditions, such as peristalsis or excessive spasm of the smooth muscular organs. He found that when these alkaloids were administered they were followed by remarkable therapeutic results. The conditions in which he claimed almost magical results are summarized as follows: Excessive peristalsis in dysentery or diarrhea, intestinal colic, pylorospasm, biliary and intestinal colics, vesical tenesmus, asthma, and uterine contractions or spasmodic dysmenorrhea. Novak, of Baltimore, working on the hypothesis that these cases all had a spasmodic element or factor that was responsible for the pain, tried atropia in heroic doses because of its sedative effect upon the unstriated muscular tissues and found that it relieved the pain in a great many cases, but the unpleasant effects of the drug were worse than the suffering endured by the patient from the dysmenorrhea. So atrophine was soon discarded along with the rest. Atropia, it is claimed, produces its antispasmodic effect by paralyzing the nerve that supplies the unstriated muscle, but the benzyl alkaloid seems to act only on the muscle cell itself. He also reported over three hundred cases where benzyl benzoate was continued over a long period of time, with no toxic effect or habit-forming tendency. Benzyl benzoate is put up in a 20 per cent alcohol solution, and is a clear liquid with a pungent bitter taste, and unless combined with some diluant and aromatic, is very harsh on the stomach. Prescribed in mucilage of acacia and some aromatic elixir, it is more palatable and will be tolerated by almost any stomach, even one with fastidious taste. The dose is from 30 minims to 2 drachms, repeated in two to three hours, if no relief has been obtained. No evil effect in even the largest dose has ever been noted.

To be sure, benzyl benzoate only relieves a symptom and does not get to the underlying cause of painful menstruation; but dysmenorrhea is only a symptom, after all, so until we have solved the problem of the etiology of painful menstruation we must continue to aim our shafts at the symptom. Wherever a cause can be found, of course, it should be removed. Any pathologic condition of the

pelvis must be corrected; but anteversion of the uterus as a real cause of obstruction is very doubtful in spite of the fact that many patients are relieved by dilatation. Far too many cervixes are dilated. Benzyl benzoate should be tried before dilatation or other pelvic operations are advised; and if it eventually proves to have the value it promises, many a woman will be saved an operation and more women will seek relief if surgery is not the only avenue of escape from suffering.

If this drug, in the final analysis, fulfills its promise, the sum of human suffering will be greatly reduced and a great economic asset acquired.

R—Benzyl benzoate .....	gm. 10
Mucilage of acacia .....	5
Aromatic elixir of eriodictyon....	35

### Conclusions.

1. The cause of dysmenorrhea is still unsettled.
2. The treatment has been unsatisfactory.
3. Antispasmodics are logically indicated, for in spite of doubtful etiology the painful spasm of the uterine muscle is incontrovertible.
4. Benzyl benzoate has an antispasmodic action and is practically nontoxic, which gives it preference over atropin.
5. This series of Litzenberg is too small to permit conclusions, but is given for what it may be worth. Of the forty-three cases presented, in 81.3 per cent the patients were relieved of painful menstruation.
6. Pain was absolutely eliminated in 62.7 per cent.
7. Pain was greatly relieved in 18.5 per cent.
8. Pain was slightly benefited in 4.6 per cent.
9. Pain was not relieved at all in 13.9 per cent.
10. These results, while not conclusive, warrant a thorough test by the profession of the value of benzyl benzoate in dysmenorrhea.

### BLASTOMYCOSIS.\*

By J. M. King, B. S., M. D.,  
Professor of Dermatology in Vanderbilt  
University, Nashville.

Blastomycosis is caused by an inoculation of the skin with the fungus, blastomycetes. The presence of the fungus brings about a reaction of the skin, producing an eruption rather characteristic from a clinical standpoint. The chronic well developed lesion looks like a chronic bromide eruption. The inoculation may take place anywhere on the body, but is most often found on the hands.

The appearance of the early lesion is dark red, smooth, slightly elevated, soft, about the size of a pea, and filled with minute abscesses. The tendency, as in all fungus infections, is to spread, with a distinct line of demarcation, and if the lesion becomes chronic—several months old—this tissue reacts in such a way as to produce a thick papillomatous growth. It may be the size of your hand or less; the papillary, verrucous growth may be a quarter of an inch or three-eighths of an inch high, covered with crusts, and filled in between the papillary projections with semiliquid pus which can be forced out by pressure. This same condition and appearance is found in chronic bromide eruptions.

If the large lesion exist over a period of several months or years, there is a tendency for the center of the lesion to clear up and the skin assumes a more normal appearance. It becomes almost smooth, may show scars, but it still contains minute abscesses and the fungus, while at the margin the fungus is invading the healthy tissue with the formation of many military abscesses and the verrucous growth of the skin.

The fungus was found in the bodies of animals before it was recognized in the human family. In 1894 Busse reported a fatal case of pyemia with subcutaneous abscesses and cutaneous manifestations in which the pathogenic agent was a yeast. A few months earlier Gilchrist had shown to the American Dermatologic Association microscopic sections

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.



containing budding organisms from a lesion which Dubring considered a serofuloderm. Hyder Montgomery, of Chicago, Hektoen, Bevan, Ricketts and Wells have reported several cases. The records of about one hundred cases are available.

The fungus is found both in the tissue and in miliary abscesses. When well stained the fungus is seen to be a round, oval, or slightly irregular body, from 7 to 20 m. in diameter. Budding forms are seen, all stages of development, and in some cases a dozen or more parasites may be seen in one field of the microscope, while in other cases they are found with much difficulty.

In diagnosis this disease must be differentiated from bromide eruption, verrucous tuberculosis, lupus, vulgaris and the vegetating forms of syphilis. The most characteristic clinical sign is the presence of numerous miliary abscesses along the invading margin of the lesion as seen with a magnifying lens. The microscopic finding of the fungus is positive.

The treatment consists of a complete eradication of the fungus by curetting, and treating the surface with carbolic acid, followed by alcohol, then exposure to x-ray and the internal administration of potassium iodid. The dressings should be done with bichloride solution once a day, and the surface covered with vaseline or an antiseptic ointment.

I have had experience with five cases—three on the hand and one on the inside of left thigh.

1. The first case was in a man of 40 years of age, lumberman, lesion on back of hand, fingers and forearm, and had been infected four or five years. Clinical diagnosis was blastomycosis and confirmed by microscopic section. Treatment consisted of thorough curetting, the application of very hot sponges, followed with local application of pure carbolic acid, and this followed by alcohol, wet bichloride dressings under oiled silk, x-ray and iodide, with complete recovery.

2. The second case was on the back of the hand and was treated the same way, with similar results.

3. The third case was on the index finger of the left hand, and the finger and hand were so deeply involved that the finger and metacarpal were excised.

4. The fourth case was on a man, 22 years of age, inside of right thigh; had been treated for tuberculosis of the skin. In the army hospital the lesion was diagnosed clinically and removed as tuberculosis of the skin. Later, under microscopic examination, it was found to be blastomycosis. The excision did not remove all of the infected tissue and it fell to me to curette, cauterize and x-ray several small lesions scattered over an area half the size of your hand. He is still under treatment.

5. The fifth case is a man; on back of left hand; 42 years of age; brakeman. Has existed two years. Has been treated for lues and tuberculosis of the skin. When first seen by me the lesion had cleared up in the middle with active areas about the wrist and back of fingers. Clinical diagnosis of blastomycosis was made and confirmed by the microscope. This case was treated as outlined above, and is still under treatment.

#### DISCUSSION OF THE PAPER OF DR. KING.

Dr. Louis LeRoy, Memphis: The subject of blastomycosis is always a timely one, because we have this disease occasionally with us. The one thing that is not recognized perhaps as often as it should be, even though that is seldom, is the tendency of these blastomycotic infections to become generalized. I have seen several cases in which blastomycosis developed subsequently in the lung, bringing about a condition of pulmonary blastomycosis having all the general appearances of a tuberculous condition, growing sometimes rapidly, and unless recognized, going on before a great while to a rather early death. The areas of consolidation are large and spreading. The distribution generally is a little different, the apices often escaping, whereas massive areas of consolidation are more likely to be low or along the middle zone. Examination of the sputum by the ordinary routine methods is not likely to show the blastomyces because they do not take the ordinary staining particularly well, and they may be overlooked anyway, because not infrequently we find yeast in the sputum that has been allowed to stand for some time. However, the liability to systemic infection and pulmonary infection should always be borne in mind, even in those cases in which local lesions have been cured. Cases of blastomycosis should be kept under observation for a long time after the skin lesions have been cured.

Dr. King (closing): I wish to thank Dr. LeRoy for bringing out that one point—namely, that it is well to watch these patients after the skin lesions are cured for a few years.

**PARANOIA.\***

By W. Scott Farmer, M. D.,  
Nashville.

Paranoia is a rare constitutional anomaly, which may remain latent for many years and only manifest itself in adult life. There are many conditions spoken of as paranoid in character, and these states arise in the course of many mental disorders. The chronic type is the one I have reference to in this paper. Many of the queer, eccentric individuals we often meet are undeveloped or blasted paranoias. Paranoias may conduct themselves as persons of sound mind, except in the matter of their delusions, and reason with good sense on many subjects. Some psychiatrists believe paranoia not to be a disease, but the product of a monstrosity of intellect which exists first in germ and inevitably matures in the full vigor of health and age, and believe their delusions are only an indicator of an anomaly. Owing to lucidity of intellect and coherence of conduct, paranoias form the aristocracy of asylums, and many do not have much trouble in avoiding a home at the hospital for the insane. The weakness of judgment that a paranoiac shows is not equally diffused over the entire mental field. It is associated with the delusional system, but we must not jump to the conclusion that a person may be insane on one subject and sane on all others, for in this connection we are reminded of Mereer's comparison of the delusion to an island in the ocean: "The island seems to occupy a position completely isolated and surrounded by water, but in reality the island is the summit of a mountain which reaches down into the depths of the sea to its very bottom, and so establishes a connection by direct continuity with the mainland. So with the delusion—its isolation is only apparent, and in reality springs from the very fountain of life."

Dereum, of Philadelphia, uses these words: "We must bear in mind that paranoias are born, not made, and that the delusional lunacy from which they suffer does not require an

improper religious training to develop it, the latter merely, in suitable instances, enhances and hastens the development of the symptoms."

"In many cases," he says, "the delusional state observed in the period of full development may properly be looked upon as merely an outgrowth or amplification of the abnormal traits inherent in the child."

Paranoias are often the most dangerous characters in society, and this is also applicable to institutions for the insane, for they do not recognize any law of the land, and while they may reason logically on many subjects and often appear intellectual on many topics, yet they are guided in their acts by their delusions.

**Symptoms.**—For the purpose of description, the disease may be divided into three stages: First, the hypochondriacal stage; second, the stage of persecution; third, the stage of transformation of the personality.

In the first stage the patient may note his own peculiarity of conduct and the different sensations that come to him, and he may be classed as a neurasthenic; he may have pains in various parts of his body; tinnitus aurium, and sparks and dots before his eyes. The unnaturalness of these sensations may cause him to spend much time in the contemplation of them so that a hypochondriacal complexion is given to his thoughts. The more he studies and investigates his strange thoughts and sensations, the more he becomes wholly preoccupied with himself. He cannot concentrate his mind as he should, and often neglects his physical duties as well. He fails in everything he undertakes and gradually grows suspicious and distrustful of everything and everybody. The more he studies the extraordinary condition of affairs, the more gloomy he becomes, and the change that takes place in him may attract the notice of others. Everything done by others appears to have some relation to himself, as everyone that winks or makes signs to another is reflecting on his character, and, added to above, he hears noises and different sounds—hallucinations of hearing, which become fixed and a permanent feature of his trouble.

The patient now enters the second stage, which is the stage of persecution. He is de-

\* Read at annual meeting of Tennessee State Medical Association at Nashville, April, 1919.

luded in the belief that the explanation lies in the operation of some malign influence against him. Heretofore when he saw people standing and talking and making gestures and whispering, he was not certain they were talking about him, but believed they were, but now he knows it, and there is no room for doubt, because he can hear the voices making disparaging remarks about him, often of an insulting character. He may conclude that some secret society is back of it all and some agent of the society is continually near him who, when he goes to bed, may bawl out all kinds of insults to him. During the stage of persecution he uses the pronoun "they" in speaking of his enemies, but when he thinks who is exactly at the bottom of his trouble he becomes a very dangerous lunatic. He may have tried to flee from his persecutors by changing his residence, but soon the old trouble bobs up again and he only finds temporary relief. He may have tried all kinds of devices, such as stopping the keyhole and cracks about the door at night, and is careful to taste his food, which may be discarded because he conceives some one has put electricity or poison in it. Finally he becomes frantic in his efforts to avoid this continuous persecution, and turns upon and attacks his supposed enemies.

Magnan says, in speaking of the three stages: "He first flees, then he defends himself, and finally attacks."

This condition may last for years, but finally the third stage is reached and he has ideas of self-importance. This condition may develop spontaneously. The patient may acquire the notion that he is not treated right by his family and feel that he is being ignored; may isolate himself from his family for months and deny himself alike to friends or relatives and, as he develops a feeling of antagonism to those about him, conduct himself like a stranger. A smile, a cough or someone whistling, or an article in a daily paper may appear as an expression of derision or hatred towards him. The delusion may assume a political or religious character, or may assume the form of an insane jealousy of wife, husband or loved one. Every now and then the affection assumes the form

of a paranoia of litigation and he believes he can only obtain redress for his wrongs in the courts, and so is always in a lawsuit with some one. Some paranoiacs may try, or believe their mission is to reform the world at a single blow; or the delusion may take the form of expansion and expand itself in the direction of literature, art or invention. Sometimes the degenerate believes himself to be a prophet, or even Jesus Christ himself, and is assertive, aggressive, egotistic, and has overwhelming confidence in himself. When the patient reaches this stage, which is the transformation of the personality, those I have come in contact with cannot be changed either by logic or reason.

The whole process may extend over many years, and is a lifelong disease. While occasionally there may be a short remission, the delusion is usually permanent and fixed, and the last stage is usually terminal dementia, if the patient lives long enough.

Paranoia is a remarkable affection because it is, in some cases, easily recognized by a layman. Again, it may present itself with such a high degree of lucidity, and the patient's arguments seem so plausible, as writers and inventors, that they have many other people to adopt the delusive ideas of the patient. As an illustration of a peculiar delusion of one of our paranoiacs, a Mr. A. (of Bedford County) believes the negro race annoys him by throwing voices through the air. He cannot live at home, for he shoulders his gun and will try to kill all negroes who come near; otherwise his mind is perfectly clear on all subjects.

One of the best posted men in our hospital on the current events of the day, and who takes a daily paper and reads all that it contains, insists that his enemies tried to poison him by drugging his food. He resorted to the shotgun for protection, and a death was the result.

We have another patient that insists she is in politics, and you cannot convince her to the contrary; otherwise she is reasonably intelligent.

We have another man who is reasonably intelligent, for his education, but believes it is right to kill any man who mistreats him,



and he alone is to be the judge. He has two deaths to his credit, and says he will stay in the hospital until he can convince the world he is right. This man has had all opportunities he needed to escape from our institution, but says it would be dishonorable to escape.

We have another patient whose delusion is the medical profession. He says the physicians are continually drugging him and that physicians, before his coming to the Central Hospital, continually annoyed him. Every physician at the Central Hospital, including the superintendent, does not treat him right, but are continually trying to drug him. Go where he may, he is confronted by some physician who is trying to drug him. If he has ever taken a dose of medicine from any of us since I have been superintendent, I do not know it. This man's mind is clear on all subjects except the delusion of persecution by the medical profession. Some day, if he is not watched closely, he will attack a physician, and it is the history in our line of work that a physician occasionally gets killed by some delusional patient.

Again, we have one who believes himself a prophet, and another who says he is Christ, and so on.

**Prognosis.**—As stated above, paranoia is a lifelong disease. While a few cases of recovery have been reported, the ultimate outcome is grave. These patients do not deteriorate rapidly like many other types of psychosis, and as a consequence often live to a ripe old age.

**Treatment.**—The treatment of a paranoiac is largely custodial, but, while this is true at the present time in our state, it is the opinion of our best psychiatrists that occupational therapy offers the best treatment for the insane. This, in common parlance, means **work**. Owing to the dangerous disposition of these delusional characters, and owing to the inadequate facilities at hand in our state hospitals, and taking into consideration the homicidal tendency of many of them and the probability of escape from the institution, we, at the present time, are not doing what should be done for this class of patients. Some of our states are building special homes for them, known as homes for the criminal and danger-

ous insane, and have all these delusional characters segregated in one institution. Here they are required to work for their daily bread and the chance of escape is negligible. This is better, not only for the patient, but the taxpayers as well, for while this condition has a gloomy prognosis, we should feel there is some hope for all of them.

In this connection I would like to call the attention of this Association to the fact that many cases in psychiatry which have for long been considered hopeless are being attacked therapeutically, and we can hope to see the possibilities for more successful treatment of the paranoiac.

#### DISCUSSION OF THE PAPER OF DR. FARMER.

Dr. R. E. L. Smith, Bearden: I have listened with a great deal of pleasure to Dr. Farmer's paper, because I am somewhat interested in the same line of work at the present time.

The doctor has given us a beautiful description of the paranoiac. I do not think any of us could improve upon his description. I, like him, believe that paranoiacs are born rather than made after birth. I believe them to be the most dangerous characters we have to deal with, for several reasons. They are usually quite shrewd, and in the beginning the formation of the character of a paranoiac is frequently at birth.

In passing along the street he sees a man who is not conducting himself properly, as he thinks, and gets the idea that this misconduct is intended directly for him, and immediately violence is performed which may result in death. I have seen that occur.

Another very important feature about paranoia is the incurability of it. Dr. Farmer says he believes that some cases of paranoia have been absolutely cured or reported as cured. I do not believe that a paranoiac was ever cured. I look upon paranoia very much as I look upon syphilis—once syphilis, always syphilis, and once a paranoiac, always a paranoiac. To say the least, the paranoiac will bear watching. Paranoiacs are the most dangerous characters we have to deal with. At the time you think you are secure they are looking and trying to produce trouble for those who are undertaking to care for them.

The doctor sounded a good note when he said that these dangerous characters should be segregated. They ought to be put in buildings to themselves and so treated. He suggested that vocational training is one of the best things for the treatment of forms of insanity. This is one character of insanity which I do not believe we can put safely into vocational training, unless

it is special training to be devised for safety. We had one man whom we suspected of being a paranoiac, and we put him out in a field to work and all at once he jumped upon one of his attendants with a hoe and came near killing him. So it is these border-line cases that give us the most trouble and are dangerous, and we should look very carefully into them.

Dr. S. S. Crockett, Nashville: I desire to address my remarks to this subject for the standpoint of the man who has charge of the well developed case during the period before these patients go into institutions rather than from the standpoint of the hospital superintendent. There are lots of these cases that never go into an institution. There are a great many more paranoiacs outside of than there are in our institutions. You will find them in all lines of business. Some of them are in the medical profession; many of them are in the legal profession, and in business, pursuing vocations of great responsibility, but those men are all known among their friends as cranks, harmless, perhaps.

Dr. Farmer mentioned the fact that they are nearly always engaged in litigations. Their affairs are never settled by arbitration. They fight it out. They think somebody is always trying to do them.

There are two characteristics of the paranoiac, one of which is egotism, and the other is suspicion. Their egotism leads them to undertake to reform the world. You see the religious paranoiac; you see the political paranoiac many times. He is going to bring about the millennium by some sort of legislation or religious device.

In 1911, while on a visit to London, England, I wanted to see a clinic on this subject. I went to the Charing Cross Hospital and found Dr. Mercer, who was holding a mental clinic. I said to him: "Doctor, I would like to see some of these men, these paranoiacs." He said, "Come to my clinic." I sat there with him several mornings and remarked that there were no paranoiacs here. He replied: "If you want to see paranoiacs, go to the Hyde Park corner any Sunday morning and you will see the harmless variety of paranoiacs addressing and haranguing the crowds." The following Sunday morning I went there and stood on the corner, and on a row of wood boxes there was one man, rather plainly dressed, talking to the crowd and trying to prove that the world was flat. He said he could demonstrate it and could prove by mathematical formula that the world was flat. Another man was addressing a crowd of people and trying to prove that Jesus Christ was an Irishman. He was just as serious about it as he could be, and there was quite a group of people around listening to him. There was a dark complected man, with eyes sunken in his head, with long hair, and I thought he was a

negro. He talked good English. He said: "I have here a preachment that I am going to deliver to King George tomorrow at the coronation parade." This paper warned the king of what happened to the king of Portugal. He said he would be where he could see King George and hand him this preachment. We all know what happened to the king of Portugal. There was a London bobby standing behind, and I said to him: "Do you allow men to talk that way in London?" He replied: "We know that fellow. He has threatened the king and queen a number of times. We think it safer to let him talk, but we keep track of every step he takes. We know where he is every five minutes in the day, so that an officer can put his hand on him at any time." Most of these paranoiacs are harmless.

With regard to dealing with them before they are put in institutions, I want to say to you they are the hardest people to commit to an institution of any class of people. They may have delusions of persecution, or have delusions of homicide or suicide, but when you put them on the witness stand before a jury they make the finest witnesses you ever saw, and no jury will send them to an institution unless they have committed violence.

We see paranoia in other forms. We see it in domestic trouble. We see it in cases of suits brought for divorce; one becomes suspicious of the other without any grounds whatsoever.

A patient came to my office from Wilson County. His wife said to me: "I believe there is something wrong with my husband." I talked to the man; he seemed to be a pretty smart fellow, and I could not see anything wrong with him then. Finally his wife went out of the office, and I said to the man, "How do you get along with your wife?" He looked around first and then said, "I have trouble with her. She is not true." I said, "How do you know she is not true?" He replied, "Didn't I see her waving a handkerchief out of the window?" It seems that he found a handkerchief on the window and thought his wife was carrying on a flirtation with some man across the street. I begged her to have her husband put in an institution then, and not to go back home with him. She said she thought he was not that bad. They boarded the train, and at Lebanon he attacked his wife with a revolver, and but for the conductor he would have killed her, and then they put him in an institution.

Dr. Farmer (closing): Dr. Crockett has said that all paranoiacs are not in institutions for the insane. Most of those we get follow criminal indictment and are sent to us by the courts. Hospitals for the insane are built not only for the protection of the patients but for society as well, and my object in writing this paper was to induce the medical profession of the state to study the question, although insanity does not appeal

to the average practitioner. I want to say that I do not believe any man or any woman in our state penitentiary ought to be eligible to parole until they have first had a complete mental examination. There is evidently a lot of paranoiacs in our state penitentiary, and under the laws of our state, when they serve their terms out, they probably having been put there for murder, they will go out into the world and repeat the same things over, or are apt to do so, and I believe that the paranoiacs of our state institutions for the insane, and we should also pick those that are in our prisons, should be isolated and put in a special institution. The majority of them are intelligent along certain lines; some of them have been in our state hospital for twenty, thirty and even forty years, and they have never earned the butter that went on their bread, and work is suited to them as well as to a healthy person, and if there is any chance in the world to get them well it is by hard labor, but owing to our inadequate facilities we cannot give them the proper treatment, and it is an injustice to them and an injustice to the state and to the taxpayers as well to let them go along like we have been doing for the last half a century, permitting them to do nothing, only sitting around the wards and thinking how to kill somebody in order to get their freedom. We have numbers of them at the Central Hospital for the Insane that would take the life of the superintendent any day if they could have a chance to gain their freedom, for several of them have not only killed their brothers, their sisters and wives, but others, and they do not believe they are insane and there is no sense in not requiring these men and women to work for their daily bread.

### USES OF THE THOMAS KNEE SPLINT.

By R. W. Billington, M. D.,  
Nashville.

The Thomas knee splint is one of the many splints and appliances devised by that distinguished pioneer orthopedic surgeon and mechanical genius, the late Mr. Hugh Owen Thomas, of Liverpool. This splint has been in general use by orthopedic surgeons for many years in the treatment of tuberculosis of the knee and ankle joints, infantile paralysis and several other affections of the lower extremity, chiefly as an ambulatory appliance. But it was not until the recent world war that it became so generally popularized in traumatic surgery. This came about as a result of the work and influence of Sir Robert Jones, Di-

rector of Orthopedic Surgery in the British R. A. M. C. Due to his efforts, this splint was adopted as the transport splint for all fractures of the femur, first by the British and later by practically all the armies. It was then found to be applicable for this purpose to nearly all injuries of the lower extremity. Moreover, as a result of work in the military orthopedic hospitals under Jones, its usefulness in base hospital work was proven and the details of its application to a great variety of conditions were worked out and became widely accepted, until it was generally conceded that no other surgical appliance approached it in its wide application of usefulness in war injuries.

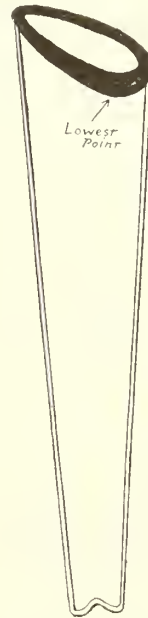


Fig. I.—Rear view of a left Thomas knee splint, showing back of ring tilted downward. Notice heavy padding behind, especially at lowest point of ring.

As a transport splint for fractures of the femur and leg bones it was in a class by itself, though in some of the other uses to which it was put it was not so universally approved. After developing a system in which these splints were applied on the field before moving the patients, the mortality from fractures of the femur was reduced from about 70 per cent to 25 per cent or less.

Everyone is familiar, more or less, with this splint as used in our army. But the U. S. army splint was not the true type of Thomas. It was modified and standard-



ized to serve for both rights and lefts and all sizes of patients, which, of course, was a great advantage for use at the front, where careful and individual fitting was an impossibility. But this modification of the shape of the thigh ring, its improper padding and its large universal size for application over the clothing made it very much less comfortable and efficient for prolonged use and made it less popular in base work than it otherwise would have been. The British had both the original model (with rights and lefts and different sizes) and the one with universal ring, the former for base work and the latter for transport from the front. This, I think, accounts for its more general use in the after-care of cases by the British than by our own surgeons, who rather preferred the Hodggen, Blake and other types or plaster of Paris. Moreover, when we entered the war the British surgeons were more familiar with the use of the Thomas splint as taught by Jones, whereas American surgeons knew more of other types and of plaster.

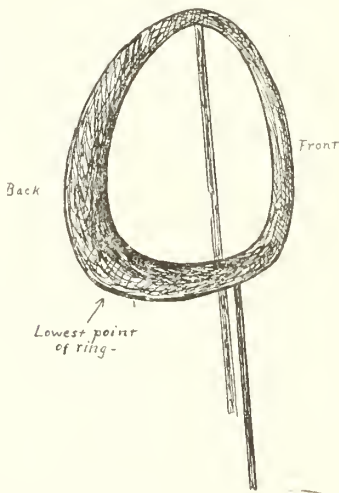


Fig. II.—View of a left ring from above. Note ovoid shape, distribution of padding and the forward attachment of the inner upright.

While the modified splint made it more available at the front, there is no doubt that the original shape of ring, fitted to the individual case as to size, is much to be preferred when obtainable, and is altogether essential to comfort and efficiency when used as a walking caliper. Traction, with the necessary counter-pressure on the tuber ischii,

which the patient, by his own movements or change of position, cannot get away from, the ease of applying lateral fixation or corrective pressure and the accessibility of open wounds constitute the main factors in the success of this splint. If the ring is not of proper size and shape and thickly padded with felt to serve as a well fitting saddle for the tuber ischii it will not be comfortable when the traction and consequent counter-pressure are made. If the ring is too small it will constrict the soft tissues and if too large it will slip behind the tuber ischii, releasing the traction. It was attempted to overcome this trouble from large rings by rigging up a weight and pulley in a Balkan frame so as to give a continuous lift to the ring, but this was easily interfered with if the patient was a little uncomfortable and did not assure against release of the traction. Pads to fill the space between ring and front of thigh were likewise unsatisfactory. Moreover, lateral and antero-posterior movements of a ring which is too large will disturb the supports and alignment of the limb.

So, in base hospital or private work, one should not be satisfied with this splint unless the ring is properly fitted. The modification having a strap to replace the anterior portion of the ring was fairly satisfactory, provided the posterior part was properly shaped and padded.

It is difficult to describe the proper shape of this ring and its position to the supporting side irons. One can accurately visualize it only by seeing it. Roughly speaking, it is ovoid or slightly triangular, the anterior part considerably flattened with slight flattening of a short postero-internal and a longer postero-external portion. It is attached to the side irons in an oblique position of 55 to 60 degrees to the outer one. The portion of the ring behind these uprights constitutes about three-fifths of the whole circumference and is tilted down so that the lowest point on the ring, as the splint stands upright, is two to four inches behind its attachment to the inner upright. Thus a comfortable saddle is formed at this lowest point for the ischium to rest in and receive the essential counter-pressure. This portion of the ring should be

more thickly padded than the rest. The padding is of felt firmly wrapped around the iron ring and preferably covered with thin but firm leather.

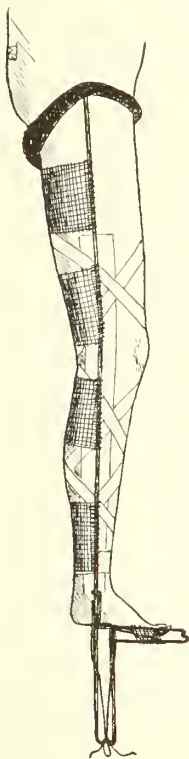


Fig. III.—Schematic drawing of bed splint applied for fractured femur. Note flexed knee, posterior slings of wire gauze and drop-foot attachment. Padding of slings omitted.

#### Posterior Supports for Thigh and Leg.—

These were of several kinds. Probably the most used and least efficient were muslin or canvas strips four to five inches wide, passed transversely around the side irons and fastened by safety pins or strong clips. It was next to impossible to give an even pressure to the back of the thigh and to keep the different strips properly aligned, due to the tendency to wrinkle and sag and slide downward toward the narrow part of the splint. In cases where there were no posterior wounds to interfere the best support was a long posterior gutter of tin or wire cloth or ladder-splinting or moulded plaster extending from buttock to ankle and so shaped as to fit and support the limb in the desired position. This is supported by two or three cross slings of bandage firmly tied around the side irons. In cases with posterior wounds

requiring dressings, the best support was 4-5-inch strips of tin or wire cloth passing transversely behind the limb and held in place by being bent around the irons. The posterior supports, of whatever material, should give a smooth, even pressure and be so aligned, in most cases, as to hold the knee slightly flexed. It was found to be very difficult to maintain this position consistently with the cloth supports and so prevent genu recurvatum and posterior bowing in the case of fractures of thigh or leg.

**Traction Straps.**—Adhesive plaster applied as in Buck's traction method served very well for injuries of the thigh and upper third of leg, but for those lower down we used the Sinclair skate attached to the foot by glue or adhesive straps carefully applied so as to include the whole surface of the foot and as much of the ankle and leg as available. A solution of celluloid in acetone has been recommended in place of glue, but I have not used it for this purpose. The Sinclair skate also serves to prevent toe-drop, otherwise requiring a special toe-drop appliance, also controls the rotation of the foot and leg as well as lateral movements of the foot. Attention to rotation of the foot is a very important matter in fractures of both bones of the leg. I saw many cases of malunion due to the foot and lower fragment being religiously held by a footpiece in the antero-posterior plane, while the thigh and upper fragments naturally, from their own weight, as the patient lay in bed, assumed a pigeon-toe deformity; and in most of these cases there was also more or less backward bowing in addition to the rotation deformity. I think this danger has not been sufficiently emphasized in the treatment of leg fractures with the Thomas splint. The best way to control this rotation is by bending the splint so as to hold the knee flexed 30 degrees.

It makes little difference whether tension on the traction straps is maintained by frequent tightening and retying, as used by Jones, or by twisting with nail or by the more complicated screw apparatus provided the necessary amount of pull is maintained. In any case this will require intelligent attention once or twice daily. Elastic traction

seemed to have no practical advantage, and was not so comfortable, as a rule.

The Balkan frame can be used to swing the splint and to maintain abduction in fractures of the upper third of the femur, though this was not considered at all necessary, the foot of the splint being held clear of the bed by the foot-rail or other prop in the desired abduction.

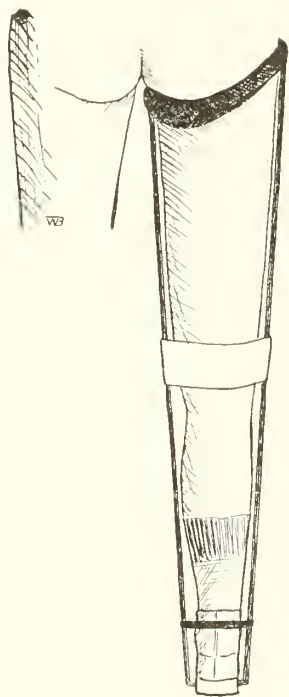


Fig. IV.—Posterior view of a Thomas walking caliper splint applied.

I have seen good, bad and indifferent results in nearly every type of injury of the lower extremity treated with the Thomas knee splint. Most of the bad results could fairly be attributed to improper application or lack of intelligent attention. I do not wish to say that I think it the best method of treating all such conditions; in fact, I think many are as well, and some better treated by other methods. It is neither fool-proof nor a cure-all, but it is, indeed, a most useful appliance if properly handled. And its success in civil practice will depend on the skill with which it is used. It seems doubtful if it will continue to be widely popular because such skill cannot be quickly acquired.

We never used it for fractures of the femoral neck except for transport, preferring the

Hodgen or the Jones abduction hip frame or plaster spica of Whitman. Some fractures of the lowest third of the femur are better held by a Hodgen or direct ice-tongs traction, though I would reserve the latter method for the most difficult cases, having seen several so treated with serious permanent disability of the knee-joint due to infection and adhesions of the quadriceps.

One of the most satisfactory uses of this splint was as a walking caliper during convalescence in fractured femur cases. Most war fractures were compound and union was often delayed or incomplete, with danger of refracture or of telescoping of the soft callus and increase of shortening if subjected to trauma or full weight-bearing, often months after the injury. It was our routine to put a walking caliper on every fractured femur before getting the patient out of bed. It was equally useful after resections of the knee joint, which require a long time for firm union and painless stability; also in non-union of neck or shaft of femur or tibia while waiting for time to elapse between healing of the wound and a bone-graft operation, usually six months or longer. Occasionally tibias would unite during this ambulatory period. Any desired amount of weight could be allowed on the limb by adjusting the length of the side-irons, the rest of the weight being taken by the splint at the tuber ischii. It was often desirable in these cases to apply also light coaptation splints of moulded plaster, wire-cloth, tin or Gooch splinting to help maintain alignment, especially when the lower ends of the splint were attached to heel of boot, and, so, removed at night. Where there is reason for extra care and protection one can use the Thomas walking splint with traction straps applied as in the bed splint.

Both bed and walking splints were very useful in many injuries of the soft parts of thigh and leg. The fixation thus obtained was often quite important in preventing spreading of infection along muscle and fascial planes; also in preventing stretching of damaged muscles and the development of flexion contractures of hip, knee or ankle which were apt to result during healing and scar contraction unless the limb were fixed



for at least part of the time in position to prevent. Usually massage and oftentimes electrical stimulation and active and passive movements could be carried on while wearing the splint; this helped greatly to shorten the period of convalescence and hasten full return of function.

We also used this splint to good advantage in the correction of knee contractures and in mobilizing stiff knees by the application of gradual force for both flexion and extension movements. This was accomplished by gradually bending the splint at the knee more and more each day in the direction of correction, traction being used with it only in case extension of the joint was desired.

Another use was in peripheral nerve injuries to maintain proper attitude of the limb and so prevent overstretching of paralyzed muscles and the development of contractures, though usually a lighter or special splint was preferable for such cases. As you know, a smaller splint of the Thomas type was adapted by Jones to the upper extremity, but I shall not discuss its indications and use at this time. While these remarks apply particularly to war surgery, it is evident that this splint will have a large field of usefulness in civil practice. But it requires considerable understanding and skill to get the best results with it. It is not the only splint for injuries of the lower extremity, and the best one for a man to use is the one he can use best.

In addition to its use in war injuries and other traumatic surgery we should not forget that this splint was originally designed for tuberculous disease of the knee joint, that it was intended to produce traction and fixation and to relieve the limb of weight bearing while the patient was allowed to get up and walk about. It has also been used for a long time and to good advantage in tuberculosis of the ankle and as a walking brace in polio and other types of paralysis of the lower extremity. But these uses are fully discussed in the older works on orthopedic surgery, and need not be discussed further at this time.

## GLEET.

By Irving Simons, M. D.,  
Nashville.

Gleet is a term used to designate the scanty urethral discharge which follows many cases of gonorrhea in the male. It may follow cases that have been conscientiously treated by the physician and may also follow those that have been allowed to go untreated or which have been sporadically treated by the patient himself with hand injections. Some synonyms for gleet are "morning drop," "goutte militaire," "military drop," etc.

The significance of gleet is not very well understood by the laity, most of whom look on it as the natural sequence of gonorrhea, and regard it of no importance, as it does not physically disturb the patient to any great extent. Strange to say, a great many medical practitioners have a similar opinion, and through ignorance have instructed many of the laity in this erroneous idea. Such men are quite as wrong as the alarmists who say, "Once gonorrhoeic, always gonorrhoeic," probably because they have never cured any cases. But both are equally in error, as generalizations have little place in medicine.

In order to get an accurate idea of the real significance of gleet, one must approach it from the standpoint of bacteriology and anatomy.

It is understood that for practical purposes inflammations of the urethra are:

1. **Specific Urethritis**, caused by the gonococcus, a gram negative diplococcus, which is specific only for the human, which is easily phagocyted, and which grows in the first generation as a rule only on serum agar.

2. **Non-specific Urethritis**, a type of inflammation caused by other organisms, such as staphylococci or bacilli (gram negative or positive), or a mixture of all of these. This type of inflammation is very prone to occur in individuals who have had intercourse with females during the menses. There are also certain females who are prone to infect males at other periods of the month, and who are frequently accused by their husbands of giv-

ing them gonorrhea. It should also be understood that many of these secondary infections of the urethra are due to the use of unsterile instruments and irrigations of unsterilized fluids, often drawn from the hydrant and poured into an irrigator which is left uncovered and which daily collects the dust of the morning sweeping of the office.

**3. Chemical Urethritis:** This type is rare, but it should not be forgotten that many a urethra is treated so long with strong antiseptics that it becomes chronically irritated and gives rise to a mucoid gleet discharge. Few of these cases are without secondary infection, so that this class could be included in Class 2.

From an anatomical standpoint the male genito-urinary tract is rather complicated, and the following schema will show in a rough way the parts of the tract that can be affected. The large array of terms will seem rather elaborated for a condition that is looked on by the laity and many practitioners as "a dose."

**Urethra Anterior:** Tyson's glands, two in number, situated just behind the external urinary meatus. These are branched glands, having two or more branches, and are at times among the most difficult foci with which one has to deal.

Morgagnian follicles and Littre's crypts are situated all through the pendulous urethra, but chiefly on the roof.

**Urethra Membranacea:** Cowper's glands are situated between the two layers of the triangular ligament and open by ducts which penetrate the anterior layer of the ligament and empty into the bulb. The mouths of these are practically never seen.

**Urethra posterior (or prostatica):** Verumontanum or seminal mound, which has on its summit or just below this on its anterior surface the opening of a blind sac, the utricle. On each side of the vern is an opening of a ductus ejaculatorius which has passed entirely through the prostate gland, dividing the median and lateral lobes from the posterior lobe. Each ductus leads directly upward to the ampulla of the vas deferens, which is continued as a small tube, the vas deferens, along the back of the bladder, up

the pelvic wall, through the internal abdominal ring, along the inguinal canal into the scrotum, where it terminates as the epididymis.

Returning to the ductus ejaculatorius, there is found leading off from its junction with the ampulla of the vas, the seminal vesicle, usually as big as a pencil and an inch and a half long. This blind sac consists of a coiled or twisted tube about six inches long, surrounded by a capsule and located above the prostate, behind the bladder, and lateral to and below the vas.

Ducti prostatici are twenty or thirty in number and empty on either side of the veru; they are the openings of the prostatic glands, a marvelously complicated maze of racemose glands, which bound in a musculo-fibrous capsule, forms the keystone of the architecture of the neck of the bladder and gives passage to the various elements that come from the testicles, the vesicles and the prostate and enter into the composition of the seminal fluid.

Just above the internal vesical sphincter is found the trigonum vesicae, which is lined with mucous membrane similar to the deep urethra and which for practical purposes is deep urethra as it is involved in posterior urethritis.

A further anatomical survey would be of no advantage, as it does not concern the study of gleet and its origin.

Out of this array of anatomical subdivisions and organs, we separate the following pathological entities:

**Urethritis anterior:**

Folliculitis.

Glands of Tyson.

Glands of Littre.

Glands of Morgagni.

Cowperitis.

**Urethritis posterior:**

Verumontanitis.

Seminal vesiculitis.

Vasitis.

Epididymo-orchitis.

Prostatitis.

Trigonitis (urethrocystitis).

**Cystitis.**

**Pyelitis** (pyelocystitis).

Small wonder that some of the laity have told me that they understood that syphilis is more easily cured than gonorrhea. And it is no uncommon thing to see cases of gonorrhea that have almost all of the above enumerated conditions at the same time.

In the natural course of a case of gonorrhea under treatment by irrigations, the general inflammation subsides and leaves in many cases areas in which there are infiltrations, ulcerations, etc., which together with crypts and follicles tend to retain the infecting germ, because they are not ordinarily reached by the irrigating medicament. Such conditions give rise to the scanty discharges that, under the influence of intercourse, alcohol, and muscular exertion are likely at times to become more profuse, but only of short duration, their rapid subsidence being due to local immunity.

Small wonder that many of these cases are not thoroughly cured, when we realize that the following are some of the procedures at times necessary:

Destruction of follicles through the endoscope; destruction of granulations on the verumontanum by means of the high frequency electrode, used through posterior irrigating urethroscopes; washing out of the ntricle; passage of sounds and Kollmann dilators; prostatic and vesicular massage; topical application of strong caustic solutions to ulcers in the trigonum vesicae; injection of the prostatic gland through the perineum with antiseptic solutions; incision and drainage of inflamed epididymis; vasostomy and injection of collargol into the seminal vesicles.

Even these few mentioned procedures require no mean degree of skill in handling optical instruments of precision and an expensive armamentarium hardly possessed by the general practitioner, who is accustomed to depend on a gravity irrigator and a handful of permanganate crystals. In addition to this, the various other complications of acute gonorrhoea, such as periurethral and Cowperian abscess, as well as complicated strictures of years' standing, which require care, skill and luck to pass.

To return to gleet, it is as a rule cured gonorrhoea; however, it may at times be due

to non-specific residual infection, and the presence of a drop need not mean gonorrhea, as non-specific infections can be very resistant and persistent. Such conditions can give rise to gleet and the presence of shreds for a period far beyond the infectiousness of the condition, so that the patient that desires to get rid of every shred may not always be successful or entirely satisfied. However, one should have many negative microscope examinations of gleet drops before calling them harmless. Such examinations should be so frequent that most patients could hardly pay a pathologist for each one, and hence the genito-urinary specialist should be capable of making them.

In conclusion, I should say that the problem of the intelligent treatment of chronic gonorrhea has become so complicated that one should either go in for it or get out of it.

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## CASE REPORTS.

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By John Overton, M. D.,  
Physician and Surgeon to Tennessee State  
Prison, Nashville.

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The following is a report of cases, accompanied by some remarks on each subject presented, which I hope may have some interest for the average doctor.

1. **Gonorrheal vaginitis in an infant eight months old.** Those who have had experience in the treatment of this condition in infants and children know how tedious the care and how often an unsatisfactory result is obtained. This case is reported because of the very prompt and satisfactory result, having been treated with 1-1,000 solution of acriflavine. The treatment continued over a period of not more than a month, and most of the applications were made by the mother of the child, who states that there is left no evidence of disease, and that the child is as clean and comfortable as it should be normally.

2. **Amputation of the penis.** This patient entered the hospital complaining of pain in the back and lumbar region. On examination there was found a short stump of the penis, with an opening so small as to cause great

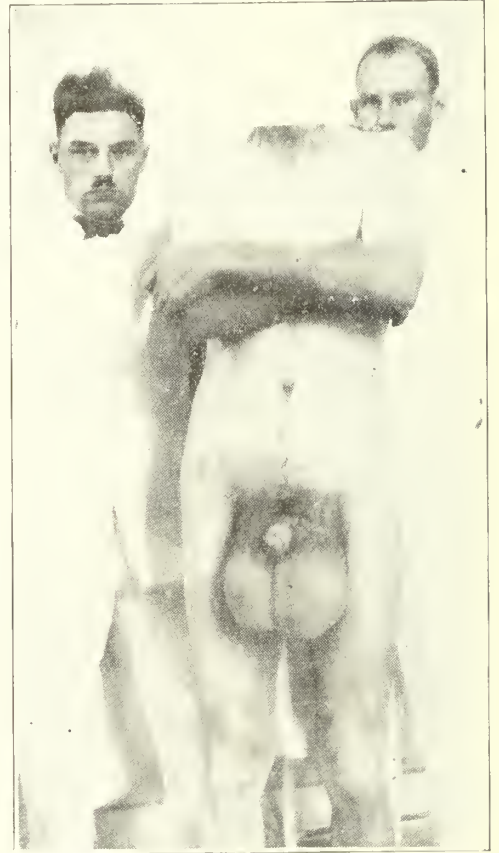


difficulty in urination. The pain in the back was attributed to the obstruction to the normal passage of urine. There was the history of a circumcision, followed by infection, which involved so much of the penis that amputation was deemed urgent, and was done. The result was good, except that the surgeon had neglected a very important point in the technique—i. e., leaving an opening on the under side of the urethra. Dilatation was tried without benefit, and I then slit the urethra on the under side for about three-quarters of an inch, cut off a flap of skin on each side, and sutured the mucous membrane to the skin. This seemed to accomplish the result wished for, and the last time I saw the patient he informed me that he would not take \$1,000 for the result of the operation.

3. **Fibroid of uterus.** A woman about thirty years old, with no children. Tumor in the abdomen about the size of a five months pregnancy. No amenorrhea. Other symptoms suggesting fibroid. Had had some sort of "electrical treatment." Examination at the time led me to advise operation. In all cases of abdominal tumor in women I am particularly careful to eliminate a diagnosis of pregnancy before advising operation.

On opening the abdomen the uterus was found to be so smooth and symmetrical that I became doubtful, thinking that perhaps the woman had deceived me in the history she had given. Having never opened a pregnant uterus, I hope to avoid such an embarrassing mistake, so I removed a greatly enlarged tube and the appendix, closed the abdomen, and determined to wait, though still of the opinion that we had a large submucous fibroid with which to deal. After about four months, the pain in the abdomen seemed to warrant a second operation, and, as there had been no enlargement, I felt sure of the diagnosis. Upon opening the abdomen, it was interesting to note the great diminution which had taken place in the size of the uterus in so short a time. The reduction was equal to the difference between a five months pregnancy and a three months pregnancy. Adhesions were quite dense, and very materially obscured the normal anatomical outlines. A supra-vaginal hysterectomy was done, and the patient had

a very satisfactory convalescence, without the development of any disturbing complications. On opening the uterus a large submucous fibroid was found, not nicely encapsulated, and easily hulled out, as such tumors usually are, but closely adherent to the uterine wall, and with difficulty removed. I do not know whether the "electrical" treatment had anything to do with this or not.



4. **Inguinal hernia.** I have never been satisfied with the Bassini type of operation, where the cord is subjected to much handling and is then transplanted, but have rather preferred the Ferguson operation. There are a great number of variations in technique, but all will agree that it is important to dissect the sac up as high as possible, to handle the tissues gently, to traumatize the cord to a minimum, especially avoiding injury to the veins, since this causes hemorrhage, swelling and infection. Lately I have been doing an operation described in Warbasse's text on surgery, trying not to disturb the cord, and

sew the external oblique and conjoined tendon on inner side to Poupart's ligament on outer side and tie sutures on outer under side of the ligament. The loose flap of external oblique that is left is then overlapped. This operation has proven very satisfactory.

Recently I have seen several cases where the mesenteric side of the sigmoid came close down to the neck of the sac. These cases have impressed upon me the importance, after the sac is opened, or passing the finger all around within the opening in the peritoneum to determine whether or not there is any viscous or its mesentery close to where any cutting is to be done. If this precaution is neglected, we are likely to cut uncomfortably close to the gut and to experience some difficulty in closing to our entire satisfaction.

The accompanying picture of quite a large double hernia shows a not very good subject. This picture does not quite do justice to the condition as I first observed the case, since the patient had been at rest in bed for two weeks and the tissue had improved in tone and had permitted some contraction of the scrotum between the time when the man was first seen and when the picture was taken. It was interesting to note the way in which this man accomplished reduction, starting the reduction and accomplishing most of it by compression with his thighs. Each side was operated on at separate times and good results were secured.

5. **Appendicitis.** After so long an acquaintance with appendicitis, it looks as if, with a careful examination, we should be able to make a diagnosis early and with comparative ease, but I believe that most of us will acknowledge that this is frequently not so. Pain over the appendix with others of the common symptoms of appendicitis does not always mean appendicitis. The pain may be due to general sensitiveness found in many of the acute general diseases, as pleurisy, pneumonia, typhoid fever, or other disease. It may be confused with the pain of renal colic or uterine colic, any of the many disturbances in the alimentary tract, internal generative organs in woman, or muscular soreness or other conditions. The class of cases that has given me most concern is that of the acute fulmi-

nant type, with severe constitutional symptoms. These cases demand prompt diagnosis, for delay may mean death, while too great haste may lead to seriously complicating a condition foreign to the appendix. Two cases of this kind come to mind. One, in Oklahoma, a young man taken violently sick, with recurrent chills and high temperature, suggesting some acute constitutional disease. There was tenderness over the abdomen. The patient was stupid in manner and at times delirious, with temperature up to 106. After consultation the abdomen was opened and a gangrenous appendix was found. I had not seen a case of appendicitis just like this, and it was confusing to me, as it was also to several other physicians.

In China I saw a United States sailor, in consultation with a naval surgeon. This man had had several attacks and had been seriously sick each time. There was some pain over the appendix, but the constitutional symptoms were so severe that the true condition was masked. All usual methods of diagnosis were used, without any definite conclusion, and after a few days the man's condition would return to normal. In the attack in which I saw this patient the whole behavior was as in the previous attacks, but the case related above was still vivid in my mind, and I advised operation. The abdomen was opened and a gangrenous, sloughing appendix was found. Good recovery was made. It is difficult to see how serious consequences were averted from the previous attacks in this case.

Another common class of cases is that in which the patient does not appear to be sick, but continues to have a little soreness on pressure, with or without the various minor disturbances of the digestive and nervous systems.

Recently I was called to see a young man who complained of pain in the right chest and down right side of abdomen. Nothing was found in the chest or throat. There was a little tenderness over the appendix, but no rigidity; also some tenderness over the right lumbar region. One noteworthy symptom was that when pressure was made anywhere over the abdomen the patient would complain

of some pain over the appendix area. This man had, on the previous day, carried a great many automobile tires up some steps, so the question of muscular strain had to be considered. There was no history of any digestive disturbance, but rather a history of having eaten all that could be had. Recalled having had some pain about ten years ago, to which little importance had been attached, also some abnormal bladder symptoms. Was said to be very susceptible to suggestion, and hence his parents were inclined to believe that he did not have as much soreness as he claimed to suffer. Was extremely ticklish over back and abdomen.

I observed this case for two weeks, during which time there was to be noted not even the slightest elevation of temperature. The patient was hungry and had no nausea. Several urinalyses were negative. Once during this period the young man returned to his work, but went back home before the day was done. Finally, a white blood count was made and found to be 10,000, which the laboratory man did not consider abnormal. After consultation was had the abdomen was opened and the appendix found bound down to its full extent, with the tip almost in contact with the base, thus producing an almost perfect ellipse. There was also a fecal concretion about the middle of the appendix, which, it seemed, was not producing any trouble. There was no pus. Recovery was prompt.

This appendix might at any hour have become extremely dangerous. Under all the circumstances, I could not get my consent to an earlier operation in this case.

**6. Typhoid perforation.** It is not probable that the average doctor sees many cases of typhoid perforation. I have seen many cases of typhoid in different parts of the world during the last fifteen years, and only three cases in which perforation occurred. All three died. I was fortunate enough, while an interne fourteen years since, to diagnose perforation, which, while too small for the surgeon to find at operation, was confirmed at autopsy. Before giving the history of this case, it may be well to summarize a few interesting points:

1. Late Widal reaction. This is fairly com-

mon in very virulent infections. It is also encountered at times in mild cases.

2. The apparent early perforation. This case was probably one of "walking" typhoid, which became worse as complications developed.

3. The occurrence of perforation in the caecum. Perforations occur generally within twelve inches of the valve, but in the far greater number of instances, in the ileum.

4. The coincidence of two most serious complications—perforation and hemorrhage.

5. The soft, friable condition of the internal oblique muscle. (Spontaneous rupture of the rectus muscle is said to occur sometimes in typhoid with distention.)

6. The nice demonstration witnessed of the prompt benefit derived from the use of the rectal tube. On one occasion, when the abdomen was fairly well distended, the tube brought away some liquid feces and gas, so that the abdomen dropped flat, much as an inflated balloon would do if punctured.

This case came into the hospital claiming that he had been about as well as usual until the preceding day, when he had begun to feel chilly and to have fever. He came from a malarious district and was thought to have an ordinary attack of malaria, though he looked quite sick, and it was suspected that he might have typhoid. He was treated for a week with quinine, without benefit. After the initial purgative, pain in the right lower abdomen was complained of, but upon examination I did not consider this of much importance. The temperature ran high, but receded daily. After five days the pain became so acute that the patient demanded that steps be taken for his relief. It did not look like an "abdominal case," and I was convinced that he had typhoid fever. There was a few rose spots and some distention, tenderness over the appendix, but no rigidity. The patient insisted upon some measures for relief, and I consented to operate, telling the patient that we might find nothing, or might find an inflamed appendix or an ulcer with perforation. When anaesthesia was produced a mass could be felt. When the abdomen was opened the appendix was seen to be bound down, running upward, outward and back-



ward, and it was removed. About one inch from the root of the appendix was a mass of thickened cecum with omentum plastered over an area about the size of a half dollar. On slight handling this area opened up, and a slough protruded, which involved the lining of gut for an inch in diameter. This was closed over, a tube was inserted outside of the colon, and the abdomen sutured. The patient did well insofar as any symptoms attributable to the operation were concerned. We had expected a fecal fistula to develop, and after a few days hoped for one to develop, but none did for more than a week, and then only a slight fistula.

Temperature steadily ran from 103 to 104, there was great distention, not like peritonitis, no tenderness nor vomiting, but like typhoid. The bowels did not move naturally, but the rectal tube nearly always brought away thin feces and sometimes gas. The distention was at times so great as to produce a glazed appearance over the abdomen. The patient looked more and more like a typhoid patient, with a dry tongue and short periods of delirium, though several Widal's were negative. He was putting up a brave fight, and it looked as if his chances for getting well were favorable, when blood began to appear in the stools and continued for several days, until death occurred. A positive Widal was finally obtained.

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### THE PARTURIENT WOMAN—THE NEW-BORN BABE.\*

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Paris.

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Perhaps the near approach to the anniversary of the advent of the Messiah—an event that marked a period in the world's history and of the destiny of the human race—prompted the writer to choose this subject for a brief thesis on this occasion. It is not the design of the paper to deal with the physiology, pathology or mechanism of the process of parturition, nor with the diseases or accidents of infantile life, but rather of the pe-

culiar situation and delicate characteristics of the lives of mother and child, and with the imminent duties and responsibilities of those who may be called upon to attend at the time of such crises in the dual capacity of administering to human needs in the trying ordeal. To those who officiate has been given the name of "obstetrician," a word which literally signifies "to stand before," and naturally suggests to the thinking mind a sort of masterly inactivity, but careful observance of the process, and to be armed with a foreknowledge of the possible dangers incident to this marvel in human events, and with courage and conservatism to be prepared to act, if action be required.

While in an attitude of patience waiting the divine course of Nature in such cases, often has the mind of the writer gone back over the ages and aeons of time and drawn a mental picture of the entrance into the world of the first offspring of the first pair of human beings away back, when TIME was young. On that occasion, Mother Eve had no precedent. But for her native modesty, she might have observed the process in the lower animals and some faint idea had been formed in her mind of what she would experience and what service she could render to herself and to her babe; but with womanly abhorrence of the tortures endured by the other animals, she hid her face, shuddering and in tears. It was perhaps not so with Adam, who doubtless had drawn near to the female animal as she parted between herself and her young, but, ignorant of the process, he turned away and left nature to her course. *Pari passu*, he stood helpless also and beheld with astonishment the throes and anguish of Eve, sympathetic, but self-controlled, and left nature to solve the miraculous problem. The other animals gathered at respectful distance and beheld with interest the unusual maneuvers of the mother of mankind; the fowls of the air poised aloft on wing or perched on an overhanging bough, and looked down with keen vision on humanity's first effort to propagate their kind; underneath the woman was the green velvet carpet of nature, while overhead naught had she for covering save the blue canopy of heaven.

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\*Read at the meeting of the Henry County Medical Society shortly before Christmas, 1919.

Hidden away within the soul of the woman was that marvelous something which we call "instinct" (for want of a better understanding), but which in reality, whether in human or animal, should be called Love. Somehow or other by a somewhat rude awakening, called by some a fall, she had learned the lesson of good and of evil, how to cling to the one and avoid the other, and in times of utter helplessness, to seek aid and comfort from Him who had created her and all things else. So at this crisis she set herself to her task with that divine submission and heroic fortitude and courage which has been a distinguishing characteristic of her sex in all ages and conditions of mankind all over the earth.

What we denominate as "nature," but which indeed is God, had carefully adapted the physical form of woman to the physical form of the babe, so as to make possible with little interference on the part of another, the exit from the mother at proper time of the embryo, not only of a human, but of all mothers of animal life. Nature leaves nothing to chance. Mathematical precision in utmost detail is her method. True, indeed, it is that parturition is attended with anxiety and with pain, but this is salutary rather than evil. These two factors contribute to both mother and babe, be they either human or other animal, for from these mothers seek quietude and a safe position, both for themselves and their offspring, which insures safety for both. Were there no pain or discomfort attendant on parturition, the females might go on their way, to the serious damage of themselves and the product of the crises.

Might we not say this of pain in any manner of disease? May pain not be a timely and conservative warning not to interfere on nature's domain, else we suffer worse consequences than mere pain? It appears, from a superficial view of the matter, that Deity pronounced an awful curse on the woman, when He said, "I will multiply thy sorrow and thy conception." Who knows but that a merciful God had the good of the woman in view as well as that of her posterity? Action and reaction are everywhere apparent in the universe, and the "sorrow" is quickly dispelled and the joy increased an hundred fold as she

emerges from what seemed to her the very shadow of death! What ecstacy, what rapture, succeeds the throes and anguish which her body suffered, but which are speedily forgotten as she hugs to her bosom her newborn babe!

Men speak in lofty terms of the majestic and attractive works of nature; the mountain peaks that lift toward the sky; the placid lake, the romantic waterfall; the gorgeous sunset; the silver moon; the gaudy butterfly; the exquisite flower; and, indeed, all these are grand and beautiful and worthy of admiration; but supremely above them all, the thing which touches the receptive soul to its utmost depths, is the scene of a young mother pressing to her virtuous bosom the tiny little babe, "bone of her bone and flesh of her flesh," the product of "two souls with but a single thought, two lives that breathe as one." This diminutive specimen of the human race is part and parcel of eternity. It is part of all its ancestry—all that has gone before it. It will influence human destiny in all of its activities, either for weal or for woe, of all who come after it.

We have a profound pity for any woman who lives who has not felt the divine thrill of emotion as she looks in the face of her newborn babe!

From the viewpoint of the natural co-adaptation of the anatomical structures of woman and embryo in normal conditions, the process of parturition should not be regarded as pathological, but merely as physiological. This being taken for granted, the obstetrician would comply with what the term really indicates, as mentioned above—namely, stand by, ready to act in any emergency, to correct any abnormal manifestation, to meet any accident which might occur, and when he thus conducts the case, he shall have fulfilled his mission.

We will be pardoned just here if we enter a friendly criticism of some so-called "modern methods" adopted in the conduct of cases of parturition. We are told by some (we like to have said amateur authors) that the obstetrician should assist nature in the first stage of labor, by dilating the cervix with his hands, to which maneuver we wish

to enter a protest in all normal cases. To say nothing of the danger of infection, the presence of the fingers or hand within the cervix in an effort to dilate it is objectionable on the ground that it removes the normal secretions which are so necessary to soothe and soften the tissues; and, also, the forceful dilatation is liable to result in a tear of the cervix; all this, to say nothing of the discomfort to the patient, who if left alone would by natural action bring about the needful opening of the cervix in ample time, and which would correspond to the relaxation of the perineal muscles, the descent of the head of the foetus, and other functions of labor. Again, we are urged by some of the "higher ups" to use the forceps, not to wait for delivery only a specified time, etc. If not forceps, administer pituitrin and "hurry up" the labor! We would not be guilty of impugning unworthy motives to our brethren in the profession, but we can't resist the temptation to ask, Why hurry up? What prompts the unseemly haste? If a normal labor, is there any danger to woman or child? Or is it possible that the practitioner is impatient, has lost sleep, has other calls, or perhaps the environment is not conducive to taking up more or less permanent lodging and board in the house?

However disagreeable or damaging to the business or pleasure of the medical attendant, none of the above mentioned excuses should ever induce one to resort to the forceps in delivery of a child. A few decades past no obstetrician was ever supposed to deliver a woman with forceps until after a consultation with one or more of his fellow physicians. This writer is not looking backward and saying the former times were better than these, but some things called progress are misnamed, and would be better if denominated as reckless daring and meddlesome interference with a natural process. If the veil of secrecy were to be torn away from the lying-in chambers and conditions laid bare that had their origin in undue haste or an improper conception of the physiological aspect of the expulsion of the babe, we would dread the mathematical result of torn cervixes, ruptured perineums, enteroptosis of the pelvic contents, length-

ened uterine ligaments, eroded os and cervix prolapsus and the various versions, which might be traceable to forceful deliveries—the result of opprobrious, meddlesome midwifery! In this arraignment, we beg to emphasize the statement that we are referring to what are known as "natural labors," which, as Lincoln said of the poor, that "God must have loved them, for He made so many of them;" so, indeed, natural labors are many, abnormal, few.

The natural woman, we mean normal in form and function, physiologically, should have little trouble in parturition, and less in the care of the infant. Nature has so ordered it. She must stay in an horizontal position for a time until involution is to a degree accomplished, for the reason that the increased weight of the organs of generation would by force of gravitation descend to the lower part of the pelvis or even without, much to the discomfort and lack of well being of the woman, and should serve as a handicap in future efforts to propagate the race or to care for the little one she holds in her arms.

In the evolution of the "mother," nature was wondrous wise and resourceful, creating a necessity for the welfare of both mother and child, mutually interdependent one upon the other for happiness. It might be problematical to determine which the greater evil, the late parturient woman without her babe, or the new-born babe without the mother. Both are essential to the welfare of either. Every obstetrician has observed this precept at some point. How quickly a flaccid womb with its attendant danger of hemorrhage is made to contract by the application of the infant to the breast of the woman! How readily are the babe's outcries and misery quelled instantly by the loving mother inserting the well-fitting nipple between the lips of the child! A sublime example of both faith and love is here also exhibited; the infant reposing with unmixed faith in the mother's arms; the mother forgetting her hard trials and multitudinous cares in the newly awakened inexhaustible love that springs spontaneously from her ever flowing soul.

The physical well-being of both mother and babe is comparable to the mutual dependence



of the growth of tree or plant in the vegetable kingdom. The stalk or tree is dependent upon the root, and vice versa, the root is dependent on the stalk or tree. Either one would fade away and die without the other.

There is a degree of abnormality easily perceptible in the non-child-bearing woman, whether she be married or living in celibacy. The state of matrimony (provided both parties to the transaction be capable of propagation) is largely a failure if no progeny results. We cannot imagine a family without children as fulfilling the law of nature.

Woman's nature will not be conserved in all its glory and beauty and chastened and made a companion and fit helpmate for man in the best sense unless she is willing to undergo the trials of child-bearing and of training her offspring. This is the divine plan, and cannot be ignored and set aside without suffering the penalty. If one woman has the right to decline such a responsibility, all have. Then, what of the human family?

Not only is woman obligated to bring children into the world, but she is equally bound to nurture them. In her breasts is stored up nature's own pabulum for the sustenance and growth of the child, for which there has never been found a complete substitute. Lactation has also its blessings for the woman as well as for the child. The mammary glands are intimately connected through the sympathetic nervous system with the sexual organs in the female and afford an outlet for nerve energy, while the sexual organs are during the period of lactation supposed to be at rest. The practice of women in the more fashionable circles of absolutely refusing to nurse their babes is fraught with danger to the moral as well as the physiological system of the woman, and its results can be none other than prejudicial in the extreme to the life and health of the infant, to say nothing of those finer qualities of the rapturous pleasure and the evolution of love which result by contact of the woman and child in the act of nursing.

We are living in a time of much agitation of the principle called "woman's rights," which has or will culminate in universal suffrage and the bestowal of women of the vocations and offices hitherto filled by men, all

of which apparently is just. We have no quarrel with the doctrine of the equality of the sexes, except that if either the male or female is superior, we should most probably be forced to cast our vote in favor of woman; but we wonder if this experiment carried to its logical sequence will intensify the already excessive indulgences engaged in by our women, and result in less and less desire on the part of woman to accept the old-time custom of marriage and of child-bearing, and of nursing the babe as her God-given privilege. We hope for the best, yet are made to shudder for the aims and ends of humanity should woman's political ascendancy be contributory to the destruction of the institution which is recognized by Deity as the foundation of society, the bulwark of civilization, and known as "the family." It will be a sad day for any nation or people when woman perverts her sacred calling of housewife and mother into neglect of these objects, however competent she may be to fill any calling or occupation of man.

I knew a woman (several) who said, "I hate children," and we expect that she was of the type known as a "manly woman"—had sprigs of beard coming out over the chin, a semi-male voice, a hardened and immobile face, and possessed a more or less general hatred toward mankind, womankind, as well as child life, and had no taste for flowers or music. The faculties of the human soul are dormant until developed by being drawn out, a process called education, and the finer faculties of woman, such as that angelic sympathy and care for her kind, cannot attain to a reasonable degree of excellence unless she has known the pangs of labor and has looked into the face of the helpless infant that has been laid at her side, and whose entire dependence upon its mother appeals to every good instinct of her nature.

So unsatisfactory is the life of woman without children, that she is prone to seek out other sources for gratification of that hunger which cannot be appeased by rounds of pleasure and dissipation (so much in vogue in non-child-bearing women) that she gets to herself some sort of substitute for her childless state, and fosters a dog or a cat

or monkey, and on these soulless animals lavishes her misplaced love and expends her energies and her means, and thereby murders every womanly faculty of her high being. It is sad to reflect on the final ending of such a life—nothing to look back over save her own selfishness; no consolation of soul which can only result from the giving of one's life for others; for she "that would thus save her life, shall lose it" is a decree as fixed as the law of the Medes and Persians of the old time, of which it was said "it changeth not."

But we have not said as much of the babe as we really intended to say in the inception of this article. What about this miracle in human endeavor? Physically perfect in form and feature, very much like its father and mother; a dual product of love and sexual passion; with faculties of mind dormant and blank as the white page on which this is written, but prepared at once for the reception of impressions from the external world, and by heritage subject to the ills and pleasures, diseases and emoluments of common humanity and absolutely at the mercy of its environment. Shall it be treated as a plaything, or as a human being pregnant with possibilities? Will it live out its allotted threescore and ten, or succumb to the precarious pitfalls to which it may be exposed and yield up its little span of life before its years number seven? If the latter, and which unsightly statistics aver is the lot of one-seventh of the race, who will be responsible for its untimely exit from the stage of human activities? Would God, who has miraculously given a body and a soul, so soon deny its right to live and take it to Himself, as is sometimes proclaimed? We could not, except we were possessed with a misconception of the divine plan, give credence to the latter theorem, and hence are forced to the conclusion if this little image of God should depart this life so soon, that somebody, some human, some father, some mother, some ancestor, maybe three or four generations back, had blundered; or that some one present, some mother or father or aunt or nurse, or friend (?) or physician, had unwontedly been led into a false method of handling this delicate, helpless innocent.

How shall we, then, treat the little stranger

within our gates just after its debut? Shall we be over-fastidious about its toilet and mop and sponge its naked body with warm water, while it is exposed to the cool air of the room, and as we are trying to remove its former covering in which nature had encased it in utero, produce by our misdirected and anxious methods a chilly condition of the body of the babe, to be followed by irritation of the mucous linings of the respiratory organs, and, it may be, precipitating an etiological factor leading to numerous diseases? After all this mopping and sponging and powdering, shall we allow the little thing to be clothed with starchy and unwieldy garments, fit indeed for an inanimate doll in shop windows, just preceding the Christmastide, but wholly unfit to be placed on the tender body of the newborn? Why not be sensible? Apply a good quantity of pure hog's lard (notwithstanding the Hebrew prejudice), then, having a bowl of lukewarm water, immerse the infant thoroughly in the soothing liquid and wrap around it a soft clean garment, and lay the little thing away in a darkened room and cover lightly, and then be content to sit by and wait and let it alone. Let its eyes (after being cleansed and a preventive used against possible infection) have time to get open to the new world, and its lungs have an opportunity to be filled with pure air and plentiful oxygen, and let the process of nature remain undisturbed to bring about the needful changes of adaptation to the new environment. The babe should be clothed, but with light, soft garments.

A few "don'ts" would come in handy at this time of baby's life. Don't coddle too much; don't shake it; don't rock it; don't play with it; don't overfeed it; don't "undo" its covering to "show it" to every passer-by; don't regard it as a part of a menagerie. Don't suspect it is extraordinary—they are all pretty much alike.. Don't conclude that it is an angel. It is human with a divine implantation, but it is an animal, and we need to study animals more than angels in our plans and purposes with regard to the young humans.

This product of the genus homo will need nutrition, but we should not introduce arti-

ficial food if it be possible to avoid it, nor be in too great haste to fill its stomach. Wait! Nature has an abundant storehouse of a pabulum just suited to the digestive organs of the little fellow in the well-shapen and comely breasts of the normal woman. And here again we are reminded of the happy co-ordination of nature's works. The suckling child causes the flow of milk to be abundant, while the milk satisfies the native demand of food for the child. If the mother by the senseless conformity to dame fashion's demands has compressed the milk glands until the process of lactation is impaired or destroyed, or if disease has afflicted the mother so that she is incapable of nursing the infant, then do the next best thing for its food supply, by substituting a wet nurse, if available, and if not, the milk of the cow, not of the goat nor the hundred and one ready-made preparations manufactured by commercialism for profit, but of a clean, healthy cow, tested beforehand, for "T. B." or other diseases, and properly fed and housed and milked with clean hands into sterile vessels and which should, from the cow to the babe's mouth, bear the insignia, "Handle with care." If the principles herein intimated in brief be but expanded to meet all requirements in practice of infant feeding, we shall have little trouble with infantile diseases, save those occurring from exposure to contagion or infection.

The true mother must, from the nature of the case, be seriously impressed with the awful responsibility thrust upon her, as she beholds in the new-born her own image, and considers that on her depends largely the future destiny of her babe. The first recollections of this infant will be of mother. The last remembrance, even though three score years or added score, will turn back over the years, and Mother will be the most distinct image of the mind—even after sight has faded from the eyes from the passing pilgrim toward the long, long night of dissolution.

The last care of the Immaculate Son of Mary, while suffering the tortures of religious fanaticism on His cross, was of His mother. Gentlemen, although you be physicians whose mission in the world is to deal with the material side of human life, and being absorbed

in your chosen avocation, are likely to forget or overlook the unseen but evident forces about you, yet it would not be thought a humiliation, but on the contrary, commendable and contributory to your high calling if in the busy employment of dealing with the human side of men and of events, you pause within the next few days at the Manger, where 1,900 years ago was born of a virgin mother a tiny infant under most poverty-stricken conditions, without influence or title or noble ancestry, but who established a kingdom which has survived the downfall of multitudes of kingdoms and peoples, and whose rule shall eventually cover the earth as the waters cover the sea. In His advent He ennobled infantile life by being born as other babes of a human mother, and thus was possessed of human instincts and desires and subject to the physical incidents common to the race.

What woman, with this example before her, would disdain to become a mother?

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### **SOME POINTS IN THE SURGICAL TREATMENT OF PELVIC INFECTIONS.**

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Pelvic infection may be caused by a variety of organisms, as is proved by bacteriological studies of large series of cases reported in the literature. Many such series are available. One reported by Andrew, including 684 cases, gives the following statistics: Sterile, 55 per cent; only saprophytes, 6 per cent; gonococcus, 22.5 per cent; staphylo- and streptococcus, 12 per cent; pneumococcus, 2 per cent; bacillus coli communis, 2.5 per cent. No doubt a majority of the sterile cases were originally gonorrheal infections.

For practical purposes we are mainly interested in two types, the gonococcic and the streptococcic. These two cover a majority of the cases of pelvic infection with which we come in contact. As our knowledge of immunity and of nature's defensive forces has increased and been applied to pelvic infections, results have been better both from the



standpoint of mortality and from the standpoint of functional results.

Pelvic exudates, instead of being thought of as destructive, have come to be looked on as defensive; as part of nature's effort to prevent the spread of the infection.

The paradox, of why, if an acute pelvic infection was removed, the patient died, while if were allowed to suffer the exhausting consequences of her disease for a time and then operated on, she recovered, has been explained: First, by local immunity, due to the blocking of lymphatics and other changes; second, general immunity due to the development of protective substances in the blood, and, finally, with bacteriological aid, by the fact that most pelvic infections become sterile after a time on proper treatment. The acute symptoms having subsided, and the pus become sterile, operation is robbed of many of its dangers.

Clark and Norris report a series of 100 cases operated on prior to 1910, in whom there had been no preparatory treatment, with a mortality of 6 per cent. In 115 cases operated on subsequently, who went through a course of rest and palliative treatment, there were no deaths.

Operation after the acute stage has passed is, then, not curing the infection, but is removing the results of the infection which nature has left.

Much can be done in the acute stage to assist nature in her efforts. Rest, fresh air, nourishing food, the application of heat or cold to the abdomen to relieve pain, the use of hot douches, and attention to the bowels do much to hasten nature's curative process.

If a pelvic abscess forms it should be opened and drained, but aside from this, the weight of present-day opinion is against any interference.

If the infection has followed labor or abortion and there are retained secundines, these should be removed with the least possible trauma by the finger, or a dull curette, and afterwards the treatment carried out as given above.

Promiscuous curetting is responsible for many cases of pelvic infection, and should only be carried out in the presence of very

clear indications. Sperry aptly says that he "knows of no other mucous membrane in the body which when acutely inflamed is subjected to sudden and violent destruction by means of the curette, thereby opening the lymphatics and blood vessels and spreading the infection to distant parts."

Fortunately, under this palliative treatment many cases make complete recoveries, without leaving pathologic residues. The cases that do not terminate by abscess formation or resolution, but reach a chronic stage, usually present symptoms that make them seek relief. The patient having passed through the acute attack, and having a residue left that produces symptoms, it becomes necessary to select a method of operating that offers the best chance of cure with the least danger. To arrive at this conclusion, certain facts must be borne in mind.

The gonococcus passes through the cervix, over the endometrium and into the tube, where it produces its greatest pathology. The results of this we see in the familiar pus tubes, with a history of recurring acute attacks of pelvic pain, and tenderness and fever.

The question arises as to why these recurring attacks take place, since cultures from tubes removed show so many of them to be sterile. Two reasons may account for this. First, because the gonococcus is always difficult to grow, and particularly so if somewhat attenuated, and second, because in most of the reported series cultures were made from the pus in the lumen of the tube, and not from the walls of the tube also. In 1917 I investigated a small series of pus tubes, eleven cases in all, with reference to this point, and was able to grow the gonococcus in cultures made from curettings of the tube wall in three cases. Five cases were negative and three were due to other organisms. On account of the war, the investigation was stopped with this small series, and before an inquiry could be made into the question of the bacteriological finding as compared to the recentness of acute symptoms and the number of previous attacks.

Usually within three months after an attack the pus is sterile, or the infection is so attenuated that operation is safe. Simpson

gives the following rules as to when a pus tube can be operated on:

First. Patient shall have recovered from acute illness and shall have acquired a satisfactory margin of reserve strength.

Second. Temperature shall not have risen above normal a single time for a minimum of three weeks.

Third. There shall have been no marked or persistent rise of temperature following a careful bimanual examination.

Fourth. The inflammatory exudate surrounding the focus of infection shall have been completely absorbed.

Using these rules to work by Simpson's mortality was less than one-third of 1 per cent. When operations were done in the presence of marked exudates, his death rate was 12.5 per cent, and with slight exudates, 4.6 per cent. To these rules Clark suggests the addition of a fifth, namely, that the leucocyte count should be normal.

When these conditions have been met, it is then necessary to determine the method of approach to be used. In so far as it is possible, it is necessary to determine whether the case is due to the streptococcus or the gonococcus, as on this fact rests the method of approach. With quiescent gonorrheal infections that comply with Simpson's laws, abdominal section is safe. In the cases due to the streptococcus, even though the process is quiescent, abdominal section is never safe. Interference with these cases from above is liable to light up a general infection, with fatal results. One case is on record in which abdominal section nineteen years after the original infection resulted in a fatal peritonitis. If any interference is carried out in this class of cases, it should be extraperitoneal, through the vagina or above Poupart's ligament.

The streptococcus, when it invades the pelvis, passes directly through the uterine wall, and produces its pathology in the cellular tissue, usually between the two layers of the broad ligament. Crossen has laid great stress on the importance of differentiating the two types of infection, and he has emphasized the value of a careful history and examination

in doing this. The streptococcus cases usually follow labor, abortion or some intrauterine instrumentation, and this should be borne in mind in getting the history. Since this organism passes through the cervical or uterine wall, and involves the pelvic cellular tissue principally, examination in a typical case will show a hard mass in the broad ligament, apparently continuous with the uterus or the pelvic wall, or, it may be, extending across the pelvis and giving a feeling as though the uterus were set in cement. Such a history and such physical findings are strong presumptive evidence of a streptococcus infection.

In the gonococcic cases the history is that of a patient who has had urethritis, leucorrhoea and pelvic pain and soreness, probably in recurring attacks. Examination may show some of the stigmata of gonorrhoea, such as infection of Skene's or Bartholin's glands, or gonococci may be found in the cervical or urethral discharge. Vaginal examination usually shows a mass in one or both sides or in the cul de sac. The mass is not of a woody hardness, and usually there is a groove between it and the uterus, and it does not give the sensation of being continuous with the uterus or pelvic wall. It must be remembered that about 25 per cent of puerperal infections are gonorrhoeal in origin. These usually run a milder course than the streptococcus cases, and a history of gonorrhoea may antedate the puerperal infection.

In spite of a careful history and examination, mistakes will be made, and there occur cases of mixed infection that are hard to classify. However, an application of these facts will materially help in a proper classification of pelvic infection and to a safe method of treatment.

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#### YOUNG DOCTOR WANTS CONNECTION.

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An energetic young physician wants to make connection with an institution or busy practitioner for part or full time. Has dental, medical, and literary degrees and able to do x-ray and clinical laboratory work. Address Journal of Tennessee State Medical Association.

## THE DOLLAR DOCTOR.

By W. S. Nash, M. D.,  
Knoxville.

During the last few years there has been a remarkable tendency in the profession to turn from time-honored practice to commercial connivance in work and the securing of work; to disregard professional ability and foster commercial necessity, which in this generation, day and time, means almost anything that is not specifically mentioned in federal, state or municipal legislation. There are medical men in every community who aspire to riches and who care but little for attainment or ability. It is not detrimental to the profession to have men in it who aspire to obtain wealth through long periods of service, self-sacrifice and ability; but, on the contrary, it is helpful to have such zealous men in such a noble work. I would cheerfully commend to everyone who seeks medical aid the progressive, honest, zealous and able doctor who have made a success of his life through his ability and efforts, and who enjoys the respect and confidence of the people of his community or of his state, and who has accumulated sufficient wealth by economy and sacrifice to care for himself and his family in his declining years, or in the years of his declining activities, which surely come to all who remain the servants of the people in our noble profession.

It is, indeed, very sad, and takes the heart out of men, to see a noble old doctor have to work, work, work all the days of his life to provide for himself and those dependent upon him for the necessities of life after he has passed the meridian of his greatest activity. The thoughtful young doctor too often looks upon the noble old doctor with pity, and wishes the circumstances and conditions were not so, but when given a few items of the old doctor's personal history, he builds for himself a "new doctor," upon a "new plan"—a "business" doctor—who substitutes intrigue for honor, and ingenuity for ability. With this fine de siecle idea, the old, antiquated doctor, whom he has learned to treat with

almost shameful disrespect, is cheerfully placed in the professional discard.

Let it be said that medicine is the noblest of all professions—for who would bear the burdens imposed by the ravages of disease; the scars of economic misfortunes; the sorrows that sadden every heart, but the doctor? That one who in the unselfish calling of his kind finds comfort and consolation in the hope that by untiring efforts and the application of remedies he may gladden the hearts of his trusting fellow man!

In 1888 or 1889, a medical practice act passed by the legislation of the state of Tennessee was the first recognition of the profession in our state, and had for its purpose the upbuilding of the profession of medicine and surgery for the benefit of the people of our state, the elimination of those who were unable to render the public a worthy service, and to rid the state of quacks and charlatans. Just how much good along this line has been done, many of the older doctors know—and many of the younger doctors do not care—thinking all the time that they have troubles all their own, and that a very humble professional legacy is to be found in Shannon's Code. The younger doctor is all "business," and finds but little time to safeguard his profession, expects the lawmakers to legislate him into the lap of luxury, that he and Dives may form a copartnership that will endure forever. So by legislation the young doctor sees for the time being what one might suppose was the "Wallingford way."

The legislation above referred to was enacted and was very beneficial to the profession; did purge it of its malevolent factors; did give to the men of science a legal recognition. It did not quite satisfy the "business doctor," who wanted all the time to fellowship with Wallingford and dine with Dives.

A few years later the medical practice act was strengthened and another feature was added, making it incumbent upon those desiring to enter upon the practice of medicine and surgery to appear before an examining board and actually stand a written examination before they could truly be said to have a legal professional status. I insist that this additional legislation was very wise and time-



ly, and that it gave to the profession a better educated class of men, but did not especially benefit the "business doctor." Now, for the first time realizing that legislation would not bring peace and plenty, and that business was business, the "business doctor" sought to enforce upon a noble profession the recognition of the principle of opportunity, instead of ability, in the acquisition of wealth. Opportunity was now to become an asset in the accomplishment of his purpose as much as "collective bargaining," and he "who stood in princes' favor" must pay tribute to the golden calf. He who believed he stood in good favor was the one who freely shared the rewards of his skill with the "business doctor," who had only the opportunity. Thus, opportunity may be described as the asset, and the asset is the poor unfortunate being suffering from the ravages of disease or injuries to his person, trusting to the "business doctor" for his earthly well-being, and at the same time being sold and delivered to another "business doctor" for pieces of silver. Think of the ghastly crimes these business transactions have set up in the minds of men who have but a sick opportunity! It is, indeed, difficult to understand how a man can reconcile his civil Christian views to such wanton and fiendish bargaining. My contempt for such men is inexpressible in a civil gathering.

A recent act of the legislature of Tennessee has placed the stamp of condemnation upon the man who has the opportunity, the opportunity that has its price, and must go to the best bidder, the bidding being private. In part the law says:

"It shall be unlawful for any licensed physician or surgeon in the state of Tennessee to divide, or agree to divide, any fee or compensation of **any sort whatsoever**, received or charged by him in the practice of medicine or surgery with any person whomsoever, without the knowledge and consent of such person, firm or corporation paying such fee or compensation, or against whom the same may be charged; and any person violating this section shall be deemed guilty of

a misdemeanor, and upon conviction shall be punished by a fine, and upon subsequent conviction his license to practice medicine in the state of Tennessee may be cancelled and annulled by the court before whom such conviction may be had, and the physician or surgeon shall not again be admitted to the practice of medicine or surgery within the state of Tennessee."

Now, if it were wholesome to the public for such a professional state of affairs to exist or if it were economical or effective to the sick, the legislature would never have gone on record as it has in this enactment; it would have rejected the proposed bill in the committee, or killed it on the floor of the house. This enactment, like others, has had the effect of further purging the profession of its impurities. The first enactment was an eliminant, and used for the purpose of giving the public better medical aid; the next enactment was in the nature of a purging, to cleanse the profession, and to keep it clean, for the good of the public and in the interest of science. This last enactment in the interest of the public was to purge and punish the morally unfit who are now in the profession, who are making representations to physicians of their superior fitness and especial ability in handling obscure and difficult cases, and, in order to introduce their high-class work, they would, from the proceeds of the case, do the "fair" thing—say "fifty-fifty." It cannot be denied that selling, or offering for sale, bartering or bargaining, proposing or promising, or in any other way whatsoever transferring to another the sick and afflicted for surgical or medical purposes is reprehensible and highly degrading to the medical profession. The "fifty-fifty" idea is practically a new idea in the practice of our profession, and has made great headway in the last twelve or fifteen years, so much so that a suffering public had to take notice of these immoral acts, and place its stamp of disapproval upon such nefarious practices. It is a shame to be obliged to call our honorable profession's attention to such irregularities. A man who would trade, and profit thereby, on the ills of human flesh, would commit any other crime that is to be found in the penal code.

**THE JOURNAL**

OF THE

**TENNESSEE STATE MEDICAL ASSOCIATION**

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

JANUARY, 1920

**EDITORIALS****FEE SPLITTING.**

In this Journal will be found an article under the title, "The Dollar Doctor." The very reprehensible practice that comes in for merited condemnation by the writer is that which has come to be known as "fee splitting." While we do not believe that this practice has ever been indulged in to the extent that some would have us believe, there is no doubt but that the buying and selling of patients has been engaged in by some physicians and surgeons. It is hardly probable that the Legislature of the state would have enacted a law to punish such an offense had not evidence more or less convincing as to the existence of such evil practice been presented. However that may be, there is now a Tennessee law providing a penalty for the punishment of any who may be convicted of dividing fees collected from patients to whom a proper accounting is not made.

It is hard to believe that honest men can find consent in their consciences for engaging in trading of the kind that is involved in fee splitting. Now that a way has been provided for the punishment of men who are dishonest enough to persist in such trading, if there are any such in our state, the law should be invoked against them. There has been much talk in the past of fee-splitters. We have heard little of it lately. If any know where the guilty are, the way is open to bring them to law.

**AN OPPORTUNITY.**

The Journal is advised, and is requested to announce that a number of young physicians are wanted for Red Cross work in European

and Asiatic countries. Young men who saw military service in the recent war will be given preference. The pay will correspond to that received by lieutenants and captains, with the usual ten per cent increase which is allowed for foreign service. This offers opportunity for young medical men to render truly helpful service, to secure valuable experience, and to see some of the interesting countries of the Old World.

The Journal will be glad to receive applications for this service and to forward them to the proper persons.

**THE CHATTANOOGA PROGRAM.**

We should have a splendid and complete scientific program at Chattanooga. There will be a large attendance at the meeting, which will be held April 6, 7 and 8.

The Tennessee State Medical Association has a large number of men within its membership who are altogether capable of making really valuable contributions to any scientific medical program. And these men do not all live in our cities, either. It is greatly to be hoped that they will not wait for the program committee to be compelled to beg them for papers.

Subjects for papers should be chosen now; the material for the papers should be gotten in hand now; the Secretary should be notified now that the papers will be prepared and ready; and the papers should be well prepared and presented in proper form for publication.

**SIR WILLIAM OSLER.**

The death of Sir William Osler occurred at his home in Norham Gardens, Oxford, England, on December 29, 1919, from pneumonia, followed by pleurisy with effusion. Dr. Osler had recently celebrated his seventieth birthday. With his passing one of the most notable careers in all the history of medicine was brought to a close. It is impossible to realize the benefits received by the world through the life and activities of Osler. His teachings were applied for the good of humanity through thousands of his students,

and his personal example stimulated all physicians who came within the sphere of his influence to strive to reach greater heights of usefulness.

### COUNTY SECRETARIES, TAKE NOTICE.

SULLIVAN, CARTER AND JOHNSON  
COUNTY MEDICAL SOCIETY.

Bristol, Tenn.

My dear Mrs. -----:

You have as a husband a man who is, or ought to be, in good standing and an honored member of the most philanthropic profession on earth. In your opinion "he is at the top of the pot" in his profession in this respect, and I sincerely hope that your conclusions are correct.

Six or seven years ago there was organized in his county a county medical society, "with a view to the extension of medical knowledge and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws, to the promotion of friendly intercourse among physicians, to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

The code of ethics, which should be the guide of every physician, Chapter 2, Article 1, Section 3, says: "Every physician should identify himself with the organized body of the profession as represented in the community in which he resides." The organization of local or county societies, where they do not exist, should be effected as soon as practicable. Such county societies, constituting, as they do, the chief element of strength in the organization of the profession, should have the active support of their members, and should be made instruments for the cultivation of fellowship, for the exchange of professional experience, for the advancement of medical knowledge, for the maintenance of

ethical standards, for the promotion in general of the interests of the profession and the welfare of the public."

Three dollars per year is the small amount necessary to pay the expense of membership in the County Society and State Association, entitling him not only to the benefits above mentioned, but also to the Journal of the State Association, well worth the three dollars expended. In addition, he is also rendered eligible for membership in the great national body, the American Medical Association, of which every reputable practitioner of medicine and surgery in the United States should be a member. But these benefits are small compared with the blessings that might come to all the people were it possible to effect an organization of all the physicians of this great country in behalf of the public weal. No one can realize the truth of this better than yourself. You are well aware of the great influence exerted by your husband over the people with whom he comes in contact. Think, then, what an influence could be brought to bear on our municipal, state and national administrations were 150,000 such men as your husband scattered over our country from Maine to California, and from the Canadian line to the Gulf, united for the noble purpose of bringing peace, prosperity and happiness to our country in its present deplorable condition. United action on the part of the medical profession, with those whom it can influence, would cause those in authority to come to terms on the peace treaty and the League of Nations, terminate the present epidemic of strikes, punish the profiteers, and banish all anarchists from our land within the next few months, or else put successors in their positions who will.

It has been my pleasure and privilege to serve as secretary of your husband's county society for the past four years. During this period I have endeavored to ascertain the name and address of every physician in the counties of Sullivan, Carter and Johnson who is eligible for membership in his county society. The facts are that I have personally solicited every one of them to join his county society, but too many of them have not done so; hence this personal appeal to you in his



behalf. A well conducted county society is really a post-graduate medical school, and I deem it not inappropriate to follow the example of the teachers in our public schools, and submit to "his guardian" at the close of this year the grade "her doctor" has made during the time I have been in office. If you are satisfied with his grade, I hope you will compliment him and encourage him to renewed efforts in the year upon which we are entering. If he has not come up to your expectations do not punish him and send him to bed supperless, as school children sometimes are for similar offenses, but talk to him as a loving wife should of his dereliction of duty, and, if not already a member, appeal to him to make application at once for membership in his county society so that you and the children will be prouder of him than ever before. This duty he owes to his profession, to himself, to his family, to his country, and especially to his patrons.

The next meeting will be in Bristol on the evening of January 7 at 7 o'clock, at which time all visiting physicians will be the guests of the local profession. We will be more than pleased to have your husband with us at that time. The address for this occasion will be delivered by Dr. ----- If pressing duties prevent his presence, see that he has his application for membership (if not already a member) in the hands of the secretary by that time, accompanied with a check for \$3.00 in payment of annual dues to County and State Societies.

A blank line following his name in the first four columns of report representing the years 1916, 1917, 1918 and 1919 shows that he was not availing himself of the honor and privilege of membership for the year or years indicated. It furthermore reveals the fact that we who have striven to keep this society going during the eventful period of the world war and the most dreadful epidemic of the ages are mourning his absence. The figures in the other four columns indicate the number of meetings of his county society he attended during the years indicated at top of said columns. Yours very truly,

W. K. VANCE,

Secretary of the Sullivan, Carter, and Johnson County Medical Society.

## SULLIVAN, JOHNSON AND CARTER COUNTY MEDICAL ASSOCIATION.

Bristol, Va., Jan. 1, 1920.

My dear Madam:

It affords me pleasure to announce that Dr. H. M. Cass, of Johnson City, late of the Medical Corps of the United States Army, has kindly promised to be the guest of the Society on the evening of January 7 and will deliver the address of the evening, his subject being "The Upper Abdomen."

Hearing this paper will make your husband more competent to differentiate the various diseases of the upper abdomen. It might be the means of him, in the near future, saving the life of a patient—possibly a member of his own family. Suggest, urge, impel and, if necessary, **compel** him to attend this meeting. Yours truly,

W. K. VANCE, Secretary.

The two letters above are copies of letters sent by Dr. Vance to the wives of members and of those who should be members of his society. We have heard that they got results. —Editor.

## THE TREATMENT OF MALARIA.

The Subcommittee on Medical Research of the National Malaria Committee has submitted the following report, which is the result of the work of a body of scientific men whose opinions are entitled to the consideration and respect of all physicians:

The Subcommittee on Medical Research of the National Malaria Committee presents the following as a standard method of treatment of malaria for the purpose of curing the patient of his infection, and recommends its general use by the profession. We believe that this treatment will, in the great majority of cases, prevent relapses in the patients themselves and also prevent the transmission of infection to others. Our opinion is based largely upon the results of treatment by this method, under average conditions, in their homes, of a large number of persons infected with malaria.

For the acute attack, ten grains of quinine sulphate by mouth three times a day for a period of at least three or four days, to be followed by 10 grains every night before retiring for a period of eight weeks. For infected persons not having acute symptoms at the time, only eight weeks' treatment is required.

The proportionate doses for children are: Under 1 year, one-half grain; 1 year, one grain; 2 years, two grains; 3 and 4 years, three grains; 5, 6 and 7 years, four grains; 8, 9 and 10 years, six grains; 11, 12, 13 and 14 years, eight grains; 15 years or older, ten grains.

It is not claimed that this is a perfect or even the best treatment in all cases, but it is our belief that this is a good and satisfactory method for practical use to prevent relapse and transmission to other people. (Signed)

C. C. BASS, Chairman;  
WILLIAM KRAUSS,  
WILLIAM H. DEADERICK,  
GEORGE DOCK,  
CHARLES F. CRAIG.

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### THE STATE BOARD OF MEDICAL EXAMINERS.

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Dr. Ambrose McCoy, Jackson, is president, and Dr. A. B. DeLoach, Exchange Building, Memphis, is secretary of the Tennessee State Board of Medical Examiners. Drs. Nat. Dulaney, Bristol; B. L. Simmons, Nashville, and C. A. Abernathy, Pulaski, are other members of this Board. The Journal has been asked to publish the personnel above given, together with a list of the states with which Tennessee maintains reciprocal relations. This list has appeared in the Journal at various times, and will appear again as soon as the necessary information can be secured.

For the benefit of several inquirers, we can state now that Florida does not reciprocate.

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### THE STATE BOARD OF HEALTH.

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The Journal has been asked to publish the names of the members and official personnel of the Tennessee State Board of Health.

President, Dr. E. M. Sanders, Nashville; vice-president, Dr. W. J. Miller, Johnson City; Dr. C. B. A. Turner, Dyer; Dr. F. M. McRee, State Capitol, Nashville; secretary and executive officer, Dr. Olin West, Nashville; state registrar of vital statistics, Dr. R. L. Baugh, Nashville; director bureau of rural sanitation, Dr. E. L. Bishop, Nashville; director of laboratory and state bacteriologist, Dr. Wm. Litterer, Nashville; sanitary engineer, Capt. C. N. Harrub,, associate san-

itary engineer, U. S. P. H. Service, Nashville; director division of venereal diseases, Dr. Geo. A. Hays, Nashville; director division of oral hygiene, Dr. A. G. Buckner, Nashville; state food and drug commissioner, G. L. Draper, Nashville; field directors, bureau of rural sanitation, Drs. C. B. Crittenden, Jackson, I. G. Jones, Trenton, K. A. Bryant, Maryville; L. A. Ledford, Madisonville.

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### 1920 REPORTS.

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A number of county secretaries have sent in partial reports of 1920 membership, and a few have forwarded complete reports, with all eligible men in their respective counties paid up and enrolled for the new year. Nothing at all has been heard from numerous other county secretaries, however, and it is to be supposed that the usual number—which is not great, we are proud to state—will wait until 11:59 p. m. March 31 to send in their reports.

It is business-like and it is important that reports should be made as early as possible and that they should be as complete as possible. Those county secretaries who have already reported have the cordial thanks of the officers of the State Association and there is left an abundant supply of these same thanks for all other county secretaries who will make their reports at the earliest possible time. The names and addresses of all 1920 officers should be included in these reports.

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### MEDICAL DEFENSE FOR MEMBERS.

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At the last annual meeting of the Tennessee State Medical Association, the Committee on Medical Defense was instructed to "request each component county society to adopt resolutions whereby each society shall guarantee to the Committee on Medical Defense the sum of one dollar each year for each active member." The chairman of this committee, Dr. S. R. Miller, Knoxville, has complied with the instructions of the House of Delegates, and has communicated with the officers of all the county societies. A number of these have already amended their by-

laws and have increased their annual dues by one dollar, this being the amount of the individual assessment for medical defense. Through such action, as we understand the matter, each member is assured defense by the committee for the whole year. There is no good reason why every man in this association should not take advantage of the medical defense feature. Neither is there any good reason why every member whose name was on our roll in 1919 should not have paid all dues, including medical defense, before this time.

Medical defense for members is a very important part of the program of the State Medical Association, and it is here urged that each county society shall take early and favorable action upon the matter presented by Dr. Miller in accordance with the instructions of the House of Delegates, to the end that every member may have the benefit of protection in case of suit for damages on account of alleged malpractice.

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#### FROM THE COUNTY SOCIETIES.

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Dr. C. T. Carroll, Secretary of the Hamblen County Medical Society, has reported sixteen members for 1920, with dues and medical defense assessments all paid. The past year was a good year for this society and a spirit of team work and good fellowship has been developed. At the December meeting the entire membership was entertained at dinner by the retiring president, Dr. Carroll. The subject, "Venereal Diseases," was discussed at the scientific meeting, and every member pledged his support to the efforts of the county health officer for the control of these diseases.

The annual election resulted in officers for 1920 being chosen as follows: President, Dr. W. E. Howell; vice-president, Dr. J. W. Pierce; secretary-treasurer, Dr. C. T. Carroll, who was also selected as delegate; alternate delegate, Dr. F. F. Painter.

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The Madison County Medical Society meets at Jackson on the second and fourth Tuesdays of each month. The fourth Tuesday meetings include a good dinner, with scien-

tific papers and discussions afterward. A good attendance at the last December meeting, held at the Southern Hotel, is reported, and the Secretary writes that plans for making the year 1920 notable were enthusiastically discussed.

Officers for 1920 were chosen as follows: President Dr. W. G. Saunders; vice-president, Dr. B. C. Arnold; secretary-treasurer, Dr. Jas. W. McClaran.

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Dr. J. W. Sanford, secretary of the Lauderdale County Medical Society, has sent in the names of eight members for 1920 enrollment. This means that two-thirds of the Lauderdale County members are yet to be reported, for Dr. Sanford never stops until all are in.

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The Monroe County Society report, thirteen members, with dues and medical defense assessments all paid, was in hand on January 1. The officers of the society of this county are: President, Dr. M. D. Shearer, Tellico Plains; vice-president, Dr. L. L. Barnes, Vonore; secretary-treasure, Dr. B. W. Bagwell, Madisonville.

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The Roane County Medical Society held its annual meeting at Rockwood on December 21 and elected Dr. W. E. Gallion, Oakdale, president; Dr. John Roberts, Kingston, treasurer; ident; Dr. John oberts, Kingston, treasurer; Dr. G. P. Zirkle, Kingston, secretary, and Dr. W. W. Hill, Harriman, delegate. Dr. Zirkle reports eleven paid members to date, all but one of whom paid the medical defense assessment.

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Dr. B. J. High, secretary of the Smith County Medical Society, had his annual report in on the very first day of the year, as usual. Fourteen members were on his list for 1920 enrollment, just one-half of whom elected to pay the medical defense assessment.

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The annual election of officers of the Knox County Medical Society on December 23 resulted as follows: President, Dr. A. L. Rule; vice-president, Dr. W. A. Catlett; secretary-



treasurer, Dr. J. C. Hill; judicial council, Dr. W. W. Potter. The annual dues have been fixed at \$10, including medical defense. Dr. Hill has made a partial report for 1920.

The Blount County Medical Society has become one of the really live societies of the state. Dr. F. A. Zoller, secretary, made a partial report for 1920 on December 17, supplemented that on December 24, and since then has made an immediate report and remittance for each member who was a little late in paying dues. Blount County is in line on the medical defense proposition, too.

Dr. W. K. Vance, secretary of the Carter-Johnson-Sullivan County Medical Society, is a determined sort of a gentlemen, with the real interests of his society and of the medical profession at heart. He works untiringly at his job, and has originated some rather unique methods for keeping his society alive and working. His latest scheme is to notify the wives of the physicians of the three counties from which his members come of the time of each regular meeting, the names of members and non-members, etc. We don't know how Dr. Vance intends to reach confirmed old bachelors like—well, there are three or four of them right in his own home town. We believe that the attendance upon the meetings of the Sullivan-Carter-Johnson County Medical Society is going to "pick up" considerably.

Dr. J. L. McGehee, president; Dr. J. B. Blue, vice-president; Dr. J. J. Hobson, secretary; Dr. Battle Malone, member board of censors. The above is the official roster of the Memphis and Shelby County Medical Society for 1920. This society made a record in 1919, having had the largest membership ever enrolled in a local medical organization in this state, and one of the largest in the whole South.

Officers of the Blount County Medical Society for 1920 are: President, Dr. R. L. Hyder; vice-president, Dr. J. E. Carson; secretary-treasurer, Dr. F. A. Zoller. This society has weekly meetings on Tuesday nights.

A program committee assigns subjects and prepares a program for a six months period. This society takes active interest in every movement designed for the public benefit in which a medical society may with propriety participate.

The Franklin County Medical Society held its annual election at Winchester, with a big supper as an added attraction, and selected the following officers for 1920; President, Dr. W. F. Smith, Decherd; vice-president, Dr. M. M. Huling, Winchester; secretary-treasurer, Dr. J. P. Grisard, Winchester. Dr. Grisard sent in his report on January 1, with ten members, only six of whom elected to pay the medical defense assessment.

The Obion County Medical Society, at its meeting on December 8, had as its guest Dr. W. T. Pride, of Memphis. After an address by Dr. Pride, the annual election of officers was held and resulted as follows: President, Dr. P. W. Prather, Woodland Mills; vice-president, Dr. J. P. Adkerson, Union City; secretary, Dr. W. F. Roberts, Troy; censor, Dr. L. D. Boaz, Harris.

Dr. H. P. Larimore, secretary of the Chattanooga Academy and Hamilton County Medical Society, one of the very best secretaries in all this wide world, has always had a partial report in before January. This year has been no exception. Dr. Larimore doesn't hold 'em, but sends 'em in.

McNairy is another county that was reported early in the year. The 1920 officers are: Dr. H. C. Sanders, president; Dr. J. R. Smith, vice-president; Dr. W. T. Bell, secretary. "Influenza" was the subject for discussion at the December meeting.

Dr. R. A. Brock, secretary of the McMinn County Medical Society, has reported six members for 1920 enrollment.

The Weakley County Medical Society, at its meeting on December 17, adopted resolutions expressing the regret of the society at losing from its membership Dr. J. C. Young,

who will make his home in the future in California.

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The Gibson County Medical Society report, showing twenty-three members enrolled to date, has been received from the secretary, Dr. B. T. Bennett. All but three paid the medical defense assessment.

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Dr. Jack Witherspoon, secretary of the Nashville Academy of Medicine and Davidson County Medical Society, has sent in approximately one hundred names for 1920 enrollment. This society had its annual election and dinner on the evening of January 6. Dr. W. C. Dixon was elected president; Dr. S. M. Bloomstein, vice-president; and Dr. Jack Witherspoon, secretary.

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At the regular monthly meeting of the Dyer County Society, at Dyersburg, December 8, the annual election of officers for the ensuing year was held. The following officers were elected: President, Dr. T. D. McDongal, Tigrett; vice-president, Dr. J. D. Berry, Dyersburg; secretary Dr. R. L. Motley, Dyersburg; board of censors, Dr. W. P. Watson, Dr. O. Dulaney, Dr. W. D. Holland.

The entire scientific part of the program was given to Dr. Geo. A. Hays, of the U. S. Public Health Service, who is in charge of venereal disease control in Tennessee. He gave a most interesting talk on the work for control of venereal diseases, explaining in detail the law governing the question, and the plans of the entire reporting system. He effectually met all criticisms of the plan, and made the entire working of it perfectly clear. Dr. Hays was present in response to an invitation given him by the society, and the society voted unanimously to endorse the plan for control of venereal diseases, and to give its heartiest co-operation.—R. L. M.

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The Morgan County Medical Society, after a rest of four years, has renewed its vigor, and had its initial meeting here this evening at the office of Dr. W. E. Gallion.

The first thing in order was the election of officers for this year, and resulted as follows: Dr. A. Byrd, president, and Dr. W. E.

Gallion, secretary-treasurer. The following applications were received for membership: Drs. J. H. Carr, of Oakdale, and J. D. Lindsay, of Catoosa, both of whom were unanimously elected.

The society decided to meet monthly on the third Saturday in each month, the next meeting to be held January 17, at which time Dr. Lindsay will read a paper on "Pneumonia in Children," and Dr. Carr a paper on "Gonorrhea."

The following doctors were present: A. Byrd, Wartburg; S. H. Jones, Sunbright; J. D. Lindsay, Catoosa; J. H. Carr and W. E. Gallion, both of Oakdale, all of whom paid dues for the year, including medical defense.

After several informal talks the society adjourned to meet January 17, at Oakdale, Tenn.

A. Byrd, Wartburg, president; W. E. Gallion, Oakdale, secretary and treasurer.—W. E. G.

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The Maury County Medical Society met in its annual election meeting at the Elks Club, in Columbia, on December 9, 1920. The roll call showed sixteen out of a total of thirty-six members present.

The annual election resulted as follows: President, Dr. R. M. Church; first vice-president, Dr. Geo. Williamson; second vice-president, Dr. J. C. Morrison; secretary-treasurer, Dr. M. A. Beasley, to succeed himself; censor, Dr. J. H. Jones.

Dr. J. G. Williamson was then nominated for honorary membership, and the suggestion was adopted by a unanimous vote, and his name will be on our honor roll hereafter. Dr. Williamson is above 80 years of age, and has served the profession and a large patronage faithfully.

Dr. L. E. Ragsdale, the retiring president, then delivered the president's annual address. After accepting an invitation from Dr. Morrison to meet in Mt. Pleasant at our next monthly meeting, Jan. 12, 1920, the society adjourned.

M. A. BEASLEY, Secretary.

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Thirteen members have been enrolled in the Putnam County Medical Society, ten of whom

have paid the medical defense assessment. The officers of this society are: Dr. Z. L. Shipley, president; Dr. R. H. Millis, vice-president; Dr. J. R. Storie, vice-president; Dr. L. D. J. Ensor, secretary.

The Haywood County Medical Society met at Brownsville on January 6, and elected officers as follows: Dr. T. C. Chapman, president; Dr. G. T. Scott, vice-president; Dr. J. L. Edwards, secretary-treasurer. By unanimous vote of the society, the medical defense feature was adopted and Dr. Edwards, the secretary, has remitted dues and medical defense assessments for seven members.

Dr. M. A. Blanton, re-elected secretary of the Green County Medical Society, has made a partial report for 1920, having sent in twelve names for enrollment. Dr. Blanton is now serving his eighth year as secretary. Dr. J. F. Lane, Greeneville, is president, and Dr. C. Y. Bailey, Baileyton, vice-president for this year. The dues of the society have been raised to include the medical defense assessments. At the meeting at Greeneville on January 5, Dr. C. P. Fox was the host and also presented the scientific paper on the program. The meetings in Greene County are held on the first Monday in each month. Dr. L. E. Dyer will have "Pleurisy" for his subject at the February meeting, and Dr. C. Y. Bailey will lead the discussion.

## NOTES AND COMMENT

Dr. Charles Webb, formerly of Burdette, Ark., has moved to Jackson and is a new member of the Madison County Medical Society.

Dr. J. P. Crawford and Dr. H. S. Shoulders are now in new offices on Seventh Avenue, North, Nashville.

Dr. J. Walter McMahan, Maryville, recently sustained severe x-ray burn which produced gangrene of two fingers. Dr. McMahan found it necessary to go to Johns Hopkins Hospital for treatment because of the gravity of his injury. The Journal is not informed as to the present condition of Dr.

McMahan, but hopes, with his many friends in the state, that he will come out without serious permanent disability.

Dr. Chas. T. McCuskey, of Wheeling, W. Va., formerly of the Medical Corps of the Navy, and stationed at Philadelphia, has been added to the staff of the Baird-Dulaney Hospital, Dyersburg, as urologist.

Drs. R. M. Kendrick and W. T. Bell, of Selmer, attended the recent meeting of the Southern Medical Association at Asheville.

Don't forget the Chattanooga meeting of the Tennessee State Medical Association on April 6, 7, 8. Get ready and go.

Delegates to the annual meeting of the State Association should be selected at the next meeting of each county society. An alternate should be chosen, too, for each delegate. Names of delegates and alternate delegates should be reported to the State Secretary.

## MISCELLANEOUS

### THE SLAUGHTER OF TEETH AND TONSILS.

The discovery that many hitherto unexplained maladies are due to focal infections and that the teeth and tonsils are the most common site of these focal infections has resulted in affording relief to a large army of sufferers through the adoption of appropriate surgical procedures. Every clinician of experience has seen some almost miraculous cures of protracted invalidism by the removal of diseased tonsils and diseased teeth, but there is no doubt that the pendulum is swinging too far and a word of condemnation and protest is in order. The removal of inoffensive tonsils is not quite so objectionable as the removal of inoffensive teeth, for the tonsils are not missed, whereas the loss of several or all of the teeth is a serious proposition and should not be considered except when the indications positively point to the justification of such a procedure.



The whole trouble seems to lie with the lack of caution and good judgment on the part of the dentists who are going to the extremes in not desiring to take the consequence of leaving focal infections in the mouth. In many instances the decision to remove teeth comes about through a misinterpretation of roentgen-ray plates. Our attention has been called particularly to this subject through the report of an experienced roentgenologist who states that in more than one instance he has examined plates made by dentists who at the present time generally employ roentgenology in their practice—usually without any experience, intelligence or good judgment—only to find that what the dentists have interpreted as being foci of infection are not foci of infection at all. Consequently some luckless patient has paid the penalty by losing some useful teeth.

What the dentists of today need is a little more of the old-fashioned judgment which leads to the saving of serviceable teeth. Because a tooth is dead is no sign that it should be removed—barring the presence of root infections—and we understand that the more progressive dentists of today are of the opinion that even root infections in a large proportion of cases does not necessarily require the sacrifice of the teeth. There are some dentists who are cutting down through the bone to the root infection, eradicating it by surgical methods as infection is eradicated in other portions of the body, and without the sacrifice of the teeth.

Furthermore, dentists, like medical men, will have to learn that success in using roentgenology means something more than putting a roentgen-ray machine in the office and trusting to luck to interpret the results that are secured from radiography. Physicians who advise their patients to consult a dentist for the purpose of discovering whether any focal infections in the teeth are responsible for certain maladies should insist on the roentgen-ray plates being made by some one who is not only especially skilled in the work but thoroughly capable of interpreting the plates. The question as to whether teeth are to be sacrificed or not should be considered very carefully and the dentist urged

to adopt conservative measures rather than sacrifice what are and what may continue to be serviceable teeth.

In the removal of tonsils we cannot say that we are removing serviceable organs, as is the case with teeth, though here also a protest should be raised to the indiscriminate slaughter that at present is the vogue. We even have arrived at the point where patients are making their own diagnosis and ask that tonsils be removed for the relief of some real or imaginary trouble, whether or not there can be any connection between it and tonsillar infection. Some very miraculous cures have been brought about through the removal of diseased tonsils, but the size and appearance of the tonsil is no criterion as to the damage it may produce, and no particular harm occurs even if perfectly healthy tonsils are removed skillfully, yet the fact remains that we are not conscientious and competent physicians when we approve of the present indiscriminate tonsil slaughter that is being performed under the guise of removing focal infections that are dangerous to health and life. A tonsil may be relatively large and yet inoffensive, whereas a very small atrophic tonsil may harbor infective material that is a positive menace to the patient. The decision as to whether or not the tonsils should be removed should rest on a careful, painstaking examination which oftentimes should include local anesthesia so that the tonsil may be seized with forceps and examined by pressure and otherwise for the purpose of detecting retained infective material. Furthermore, it is the height of folly to give such optimistic promises to patients concerning the effects that are to be secured by the removal of either teeth or tonsils, for there are other places in the body where foci of infection may reside and be responsible for ill health. Many failures and disappointments have resulted from the too optimistic attitude of physicians in recommending removal of teeth and tonsils, with the result that already many people are beginning to consider a perfectly justifiable procedure in a large number of cases as being thoroughly without merit. Therefore, a certain amount of conservatism and conscientious adherence to intelligent interpretation

of conditions should guide us in our advice to patients.

There was a time when it was popular to remove the ovaries from every woman who had a real or imaginary ill, and a few years back it was not uncommon to find some communities possessing overzealous and oftentimes unscrupulous surgeons where a large portion of the adult female population had been unsexed, most of them unnecessarily. The better class of surgeons condemned this wholesale slaughter of ovaries, and today the removal of ovaries is a procedure that is adopted in the hands of most surgeons with due regard to conservation and pathologic requirements. The present era of radical surgery of teeth and tonsils is going to resolve itself into a change for the better, just as was the case with surgery of the ovaries; but conservative physicians and dentists should sound a note of warning and thus hasten the day when we will adopt or discard treatment in a rational way.—*Journal of the Indiana State Medical Association.*

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### HOSPITAL ORGANIZATION.

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In a recent number of the *Journal* we published some observations on hospital activities by the Council of Education, American Medical Association. Such discussions are pertinent at this time, as we observe an unusual activity in hospital construction. Until quite recently, the new hospital activity was in the direction of private institutions for the development of the surgical interest of local men. This may have been necessary as a pioneer movement, but we believed that the small private hospital would not serve the best interests of the communities and involved serious financial dangers to the owners in the way of damage suits. Recently, we observe that the hospital plan is of the nature of community hospitals, built and financed by the general public and to serve all classes of people. We have seen nothing yet to indicate the exact plan of administration, but we assume that funds will be secured to place these institutions within the reach of those who can pay only a small fee, or no fee at all, and through group activities on the part of the

local profession, the various communities will secure better medical and surgical services than ever before.

In the larger and better organized centers of population, another important factor must be considered, and that is the educational factor. There is an increasing demand for a hospital year before the young medical graduate is permitted to practice. A number of progressive states already require a hospital year in addition to the four years' course. It is scarcely necessary to say that the hospital year would be of but little value to the student if the hospital was not organized and equipped with proper means of instruction, and in the hands of a co-ordinated and competent profession. A hospital without an organized staff, with real authority, would be impossible so far as an interne is concerned. It may be held by an individual hospital that it cared nothing about the educational side of hospital work, but it will soon become apparent that a hospital for financial gain and incidental humanitarian purposes will take low rank and lose the most important and influential patronage.

It will be the purpose of the council through the state advisory board or independent of it, to investigate and classify hospitals with a view of determining the fitness of certain hospitals for giving the hospital year. There will be certain community hospitals well enough equipped both in scientific outfit and men to make it profitable for fifth year students, and no doubt they will be classified accordingly. The Catholic Hospital Association is earnestly endeavoring to put their institutions on a proper basis, and, having a large experience and excellent organization, will probably occupy an important place. We have no brief for sisters' hospitals, but certain facts are obvious.

From all parts of Iowa come the most encouraging information as to hospital activities, but we feel called upon to urge two things at least: thorough equipment and a provision for future support; second, co-operation on the part of the profession. Without cordial co-operation, the hospital will only be a boarding house for sick people.—*Journal of the Iowa Medical Society.*



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# LOCAL REGISTRARS OF VITAL STATISTICS (Continued).

**Chester County.**—Civil District No. 1, J. I. Sewell, Enville; Civil District No. 2, Civil District No. 3, W. H. Brower, Luray; Civil District No. 4, B. F. Robertson, Henderson; Civil District No. 5, W. B. Bain, Pinson; Town of Henderson and Civil District No. 6, outside of Henderson, W. H. Weeks, Henderson; Civil District No. 8, J. B. Halton, Henderson; Civil District No. 7, Chetler Freeman, Finger; Civil District No. 9, W. T. Stewart, Montezuma; Civil District No. 10, J. M. Wyatt, Bethel Springs; Civil District No. 11, Civil District No. 13, H. C. Pike, Enville; Civil District No. 13, G. H. Roland, Bethel Springs.

**Clairborne County.**—Civil District No. 1, Henry Pursifull, Tazewell; Civil District No. 2 and No. 3, Dr. B. M. Davis, New Tazewell; Civil District No. 4, Dr. Geo. Lynch, Tazewell. R. 7; Civil District No. 5, Dr. A. H. Brooks, Harrogate; Civil District No. 6 and No. 7, Joe C. Thomas, Cumberland Gap; Civil District No. 8, Grover D. Walker, Forkridge; Civil District No. 9, Dr. Jim Ausmus, Clairfield.

**Clay County.**—Civil District No. 1, A. T. Sallee, Celina; Civil District No. 2, J. W. Bean, Red Boiling Springs; Town of Celina and Civil District

No. 3, outside of Celina, J. T. Waddle, Celina; Civil District No. 4, Jessie L. Smith, Oakley, R. No. 1.

**Cocke County.**—Civil District No. 1, Warren Jones, Del Rio; Civil District No. 2, Dr. C. W. LaRue, Parrottsville; Civil District No. 3, W. L. Lovell, Bybee; Civil District No. 4, J. S. Gray, Newport; Civil District No. 5, D. C. Hicks, Cosby; Town of Newport and Civil District No. 6, outside of Newport, F. W. Parrott, Newport; Civil District No. 7, D. C. Townsend, Newport; Civil District No. 8, Burnette Webb, Del Rio; Civil District No. 9, Jas. Gilliland, Cosby; Civil District No. 10, W. N. Johnson, Hartford.

**Coffee County.**—Civil District No. 1, No. 2 and No. 3, Jno. H. Ashley, Beech Grove; Civil District No. 4 and No. 15, T. E. Young, Haley, R. 2; Town of Manchester, Civil District No. 6, outside of Manchester, and Civil District No. 16, Wm. McCrae, Manchester; Town of Hillsboro, Civil District No. 7, outside of Hillsboro, and Civil District No. 11, No. 8, and No. 12, R. L. Sain, Hillsboro; Civil District No. 10, J. M. Ross, Summitville; Civil District No. 9, Mrs. Robt. Belcher, Viola; Town of Tullahoma, Civil District No. 13, outside of Tullahoma, and No. 5 and No. 14, Mrs. W. A. Marshall, Tullahoma.

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### **THE CLINICAL PATHOLOGIST: A MEDICO-SOCIOLOGICAL STUDY.**

By William Krauss, M. D., F. A. C. I. M.,  
Memphis.

So often have we heard the aphorism that only the very rich and the very poor can secure adequate medical aid that we have become weary of it. Just how the problem of the middle class man was to be solved was as yet a question, the answer to which lay in the future. In a general way it was supposed to depend upon some system of industrial insurance with health benefits.

Gradually, out of the maze of conjectures and suggestions and speculations and experiments, certain lines of cleavage became apparent. Clearly and distinctly, the foreground revealed the clinical pathologist and the roentgenologist as the "goats." For instance, occasionally in my mail and rather often verbally, I am the recipient of about this kind of inquiry: "I have a capable girl; she has had some training as a nurse, can take dictation and keep my records. Take her into your laboratory to work for a few weeks, so that I can use her as my technician." What a glorious tribute to the simplicity of my occupation!

In a few instances, to my sorrow, I have yielded to personal influence, and I am ashamed of it. This "capable girl" every day discovers at least ten new ways of making mistakes, besides gumming up everything from the receiving counter to the finished mail. She contaminates stock, deteriorates equipment, burns out the autoclave, smashes up pre-

cision glassware, mixes glass stoppers, leaves the absolute alcohol open, lets alkali corrode buret stopcocks, and smears as many pathogens in as many places as possible. She wants to begin by "doing" Wassermanns, and this is what eventually happens to "them" when she gets her manicured fingers on this kind of work. There are notable exceptions, to be sure, but this kind of intensive training of unqualified persons is bound to result disastrously.

A very superficial survey will convince anyone that women devoid of training in the rudiments of chemistry are employed in, and left in charge of, medical laboratory work. There are physicians who accept reports from whosoever can fill out a laboratory blank, and the same is true in roentgenology. We have started reforms in everything else in medicine, and some board ought to be created to inspect laboratories and their records.

Now, let us take a look at the chance for elevation of standards in this line. At present many clinicians look upon the clinical pathologist as a sort of upper clerk. He begins his career in about this way: After an extra period as assistant in a college or hospital laboratory, he becomes assistant teacher at a starvation salary and is forbidden to earn money on the side. He is in charge of lecture work, class demonstrations, post mortem and tissue work for the clinic, the out-patient laboratory, quizzes, etc. He does all this, looking hopefully forward to the time when he can specialize in his work in private practice. He was probably too interested in his work at first to break into surgery, and now his opportunity is gone. He goes out and probably gets a post

as attending pathologist at, maybe, \$75.00 per month. He is elated over this, because it gives him prestige, and he can begin to "work" practice from there, and bring his little work to the hospital lab. But right here he is in competition with himself and later with those who follow in his footsteps. Some of them solicit flat rate work, again just to tide over, and soon find themselves submerged in a sweatshop existence which bars all way to study, experiment or establishment on a sound footing. He is in competition with all kinds of free laboratories and all kinds of women technicians and some rather good physicians' private laboratories. The hospitals, the public laboratories and the clinicians who are his patrons look upon him as an unprogressive hack, not worthy of serious consideration.\* Having solicited flat rate work to keep the wolf from the door, the dignity of his calling has ceased to exist, because he admits by his economic status that there is no difference between him and the "capable girl" who has taken a few weeks' training.

The flat rate method of compensation is so much in line with the manner of paying him at the college and in the hospital that it is considered good enough for such as he, for, if he had any gumption, he would be doing surgery. But what in the name of Hippocrates has become of standards? The clinician, laboratory being just laboratory, trades in the cheapest market and, I am sorry to say, in many instances sells the product at a good profit. Doubtless he considers that he is doing no worse than the hospital is doing. One hospital I know of is doing about \$10,000 worth of laboratory work. Its laboratory expenses are about \$2,000 a year and it pays about \$2,700 in salaries to pathologist and technician. It is pocketing annually \$5,000, practicing medicine.

The clinician thus gets the impression that the clinical pathologist is nothing but an upper technician or a stenographer, some of whom

cost more, some less, but all alike in other respects. If the patient mildly suggests a pathologist in whom he has confidence, he is told, "Don't bother—I'll attend to this matter; I understand this better than you." Time and again patients have expressed their surprise at the evasion of their doctors on this point. Very recently a patient told me he had to go to another city with his case because his doctor refused to employ a certain bacteriologist, insisting upon another with whom, presumably, he had a monthly contract. One business man asked me if I ever made examinations for patients direct. I told him, "Not if I can help it." He said: "Yes, of course; you doctors have a trust, and under the cloak of ethics, the patient has to take what is handed to him." I replied, rather hotly, that the "code" was formulated solely in the interest of the patient, and any doctor who was using it otherwise was "double-crossing" him. He said: "Well, my doctor recently charged me with a laboratory report, and when I asked him for it, he said, 'Well, that is all right—there was nothing wrong.' Since then, I and several business friends have ourselves tested by a laboratory in Chicago at stated periods. This Chicago man said my urine was all wrong, and he is not a prescriber, hence not interested in the result."

The gist of this matter is that the public is taking notice, and is not satisfied with being shunted around to be "fleeced" by groups playing into each other's hands. The patient wants to know who his pathologist is, and what he is paying for.

Another patient paid \$15.00 for a Wassermann test, supposed to have been made by me. His physician's name is not on my records, and it has been many a day since I have received \$15.00 for a Wassermann. Innumerable times patients have gone to other doctors, who have asked me to look up the record, and such names were not on my files. Such are the abuses of the flat rate system, but there are others.

If the clinician is falling behind on his contract, there is nothing to prevent his pooling with other doctors or else load his patient with unnecessary laboratory work. The flat rater,

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\*A noted hospital specialist in a recent talk on hospital standardization, said: "These scientific dogs, the less you pay them, the better they work, and as for equipment, \$800 will equip any laboratory." There we have it!



in order to get through with his day's work on a ruinous contract, cannot, with the best intentions, do justice with it. If his intentions are not the best, he has the choice of several ways out of trouble. These evils are, unfortunately, more than potential.

Some doctors I have talked to justify the flat rate system on the ground that it is not always possible to get the patient's consent to as many examinations as they would like to have, and they cannot afford to pay it out of their pockets. One of these, while discussing this, admitted having collected \$17,000 that year, and he is not a surgeon, either. In cutting expenses there seems to be a tendency to whittle at the small end of the stick. A proposition to flat rate his supply bill at the druggist's on the same ground would not meet with much success. In other words, he is trading on the underpaid man's necessity and making a profit out of his professional brother, yet he would loudly wail over having to sign a fee bill with an industrial corporation. The overhead of a laboratory is greater, in proportion to income, than that of any other branch of medicine, but the C. P. is the "dog" who can pick the crumbs from under the table. The clinician claims ownership of the patient, having "seen him first."

Unfortunately, one gets the impression that it is not so much a case of laboratory work coming too high. To be sure, they get it free in so many ways that this seems to be the case, but one laboratory I know of attempted to meet this objection by reducing its fee. The result was a storm of complaints on the ground that this laboratory was ruining the business. Translated into English, it means that it was too low for an open rate and too high for a secret one.

I have before me the annual report of the head of a great state health department. It says the laboratory has been handling over 15,000 specimens a year at a cost of \$10,000. Figured at \$3.00 per specimen, he estimates that the individual would have paid \$45,000 for this work, thus showing a net earning of the laboratory of \$35,000 on an investment of \$10,000. He persuades, like Poor Richard, by appealing to interest, not to reason. On this

basis alone, not arguing in terms of preventive medicine, he took this out of the pocket of the clinical pathologist, and the director of the laboratory who did this for him gets not enough pay to send his children to college. This service included blood counts, urinalyses, Pasteur treatments, tissue and other personal diagnostic work that had no public health bearing. This is social medicine with a vengeance. In the hospital can charge for professional services in the way of laboratory work by pocketing the difference between a niggardly salary and the price the patient has to pay, and the public health laboratory does personal diagnostic work, then there is but a small bridge to cross before the hospital and the state will assume all the functions of the medical profession and pay what it pleases for the service rendered by the doctor himself. In a similar way, anybody able to control a considerable clientele can farm out his surgery, his tonsil, dental, neurological and other professional work at a flat rate. Once on the toboggan, built and started by the medical profession itself, and the downward path will be swift and certain.

Unless there is a revision in the economies of the clinical laboratory, no qualified men will be available in the future. If the services of a man who has taught pathology and clinical medicine are worth no more than those of the "capable girl," then the girl is in the position of determining the standards of the future laboratory.

If such a woman can be allowed to make Wassermann tests and, worse, autogenous vaccines, knowing nothing of identification of species, virulence, differential dosage and thermal death point, etc., then the hygienic laboratory had better revoke all biological licenses.

Medical economies are undergoing a change, and the profession is "asleep at the switch." Witness the workmen's compensation law in this state.

In recasting his economic relations the clinician is putting an unjust burden upon the clinical pathologist. He is supported in this stand by the economic status of the clinical pathologist before hospital authorities, the medical school, industrial contract practice,

and the public laboratory. He is encouraging a sweatshop system, known as the flat rate method of compensation, which, from a social, economic and professional standpoint, is degrading to both contracting parties, prejudicial to the interests of the patient, and constitutes the worst form of commercialism in medicine. There is no limit to price competition for flat rate contracts, and the matter of accuracy and dependability is submerged beneath the one of greatest profit to contracting parties.

There is no system of control or regulation which defines degree of proficiency in persons engaged in medical laboratory work. There is a large army of incompetent, ignorant and uneducated persons whose services are rated on a level with laboratorians of training and experience, and their work accepted in some instances without question or supervision.

The profession owes to its future a debt. To what extent may the hospital, the state, the municipality, the college, the free clinic and the profiteer usurp the functions of the medical profession, and what effect will this have upon the future of medical science?

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## OUR TWO YEARS' EXPERIENCE WITH RADIUM.\*

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In July, 1918, I read a paper, "Preliminary Report of Radium Cases," before the Chattanooga Academy of Medicine, giving our successes and failures with the first thirty-five cases treated with radium. All of these cases presented conditions where radium treatments were clearly indicated.

In this paper I am going to report its use in forty-seven more cases, or a total of eighty-two cases treated in the past two years. As was the case of those reported last year, all or most of the additional cases clearly indicated the use of radium. A large portion of them had had the benefit of surgery, were inopera-

ble when brought to us, and some were bed-ridden. This is the sad part of so many of these cases—they are almost too far gone for anything, even radium, when brought to us. The conclusions, therefore, that you may draw from the case reports that I present to you tonight is a real test, in my opinion, of what radium can do in some of these distressing conditions.

In a former article upon this subject I detailed the history, source and manufacture of radium and its salts, and those of you who are interested in this part of the subject can refer to the article in question, which was printed in the October number of the Tennessee State Medical Journal, 1918.

Radium is so well established now that every large clinic and well equipped hospital should have a radium department, with at least 60 to 100 milligrams of radium or some of its salts. This amount is considered a working unit. It is well to have this quantity in at least three pieces. There should be a small piece, say 10 or 15 milligrams, for light work, such as superficial epitheliomas, and the 50 or 100 milligram pieces for heavy, deep work. Some of the larger clinics in this country and abroad have 500 milligrams and more of radium, but the only benefit to be derived from such huge quantities is that you can treat a greater number of cases in a given time. The treatment of a case is usually recorded in milligram hours. For instance, a carcinoma of the uterus is usually given at one sitting 500 to 1,000 milligram hours of radium. This means that 50 milligrams of radium is used for ten hours for the 500 milligram dose, or twenty hours for the 1,000 milligram dose; or if you are using one hundred milligrams of radium, you would apply it for five hours in the one case or ten hours in the other.

Before passing to the reports of cases, I feel that I must say just a word in regard to the physics of radium and its proper application and handling. Radium gives off three rays—*alpha, beta and gamma*. The alpha rays are short, irritating rays and are seldom used. The beta are deeper and more penetrating and are quite frequently used, especially for superficial work, while the gamma rays are much

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\*Read before the Knox County Medical Society on July 15, 1919, and the Chattanooga Academy of Medicine on September 5, 1919.

longer, penetrate deeply and are the real active working rays. In order to eliminate the alpha or beta rays, it is necessary to screen the radium, thereby filtering the rays. The various screening materials in use are principally rubber, aluminum, wood, gold and lead. Lead is the most effective and therefore the best of all screening material. Distance is also a very effective screen for the alpha and beta rays. Any contrivance that will hold the radium five or six centimeters away from the part to be rayed will eliminate the alpha and beta rays. This is the method in vogue at the present time, when using radium over the eye, in treating cataracts, etc. Some use a thick wood block for this purpose or even gauze packs thick enough to obtain the distance between the radium and the eye.

Radium acts on both the pathological and normal tissues of the body, but as the pathological tissue is less resistant, it is destroyed more readily. It is because of this fact that the experienced radio-therapist destroys the pathological tissue, while not injuring the healthy tissue, or if so, only to a slight degree. If the healthy tissues are severely injured, a deep, ugly leathery ulcer results, that finally, after many weeks, sloughs out and heals slowly.

When radium is applied to the tissues for therapeutic uses it produces an engorgement of the vessels. This is followed by an endarteritis of the smaller vessels and capillaries, occlusion of them with death of the adjacent cells and tissues. This is then replaced by fibrous tissue. I could not give you a better illustration of the microscopic changes that take place in the tissues when radium is applied than to quote from Dr. Howard Kelly's article, read before the American Gynecological Association some two years ago: "A piece of cancerous tissue examined a week after radiation shows an extensive hyaline degeneration of the cells and nuclei with a beginning disappearance of the cells. . . . Several weeks later all the affected areas are replaced by a new-formed vascular fibrous tissue with thick-walled capillaries."

The three common types of cancer of the uterus are all amenable to radium treatments—squamous celled, basal celled, and the adeno-

carcinoma of the body of the uterus. Dr. Kelly says perhaps the basal celled carcinoma responds more readily than the other forms to radiations, yet at times any and all of the different forms may completely resist the action of radium. From this you will see that you can never, under any conditions, promise a patient when he presents himself for treatment that the radium will positively cure him or benefit him. The best that you can do is to tell him frankly that in all probability he will be greatly benefited and possibly will be cured, and that the application of radium should not pain him or do him any harm. This is as much and more than you can tell him with any other form of treatment.

The following cases are divided into groups according to the clinical diagnosis made at the time they came to us and verified in a number of cases by a microscopic examination of specimens taken from the seat of the trouble. It was not possible nor considered expedient in all cases to submit specimens for pathological examination, but the diagnosis from our standpoint was perfectly plain and unmistakable.

Diagnosis.	No. Cases.	Deaths.
Primary inoperable carcinoma of the cervix -----	12	5
Post-operative carcinoma of cervix and vagina (following hysterectomies, Percy cautery and simple amputation cervix, inoperable) -----	6	1
Recurrent carcinoma of breast-----	6	0
Cancer of tonsil -----	2	--
Cancer of penis -----	2	1
Cancer of prostate gland -----	1	1
Cancer of rectum -----	1	1
Sarcoma superior maxilla -----	1	--
Recurrent carcinoma of back -----	1	--
Sarcoma of sternum -----	1	1
Sarcoma of parotid gland -----	1	1
Postoperative sarcoma of mastoid-----	1	1
Postoperative mastoid sinus -----	1	--
Epithelioma nose and eyelid -----	1	--
Epithelioma of lower lip -----	2	--
Epithelioma of face -----	9	--
Rodent ulcer neck -----	4	--
Rodent ulcer cheek -----	2	--
Leukemia -----	3	2
Uterine fibroid -----	5	--
Metrorrhagia -----	6	--
Keloid -----	1	--
Warts -----	1	--
Nevi -----	2	--
Excessive hair on chin-----	2	--



Diagnosis.	No. Cases.	Deaths.
Goiter -----	6	--
Angiomas of face -----	2	--
	—	—
Total -----	82	18
Mortality of all cases, 21.9 per cent.		

You will note that of the 82 cases reported there were eighteen deaths that we know of—21.9 per cent. One death was due to influenza in a recurrent carcinoma of the breast that was doing well under treatment, and probably would have lived one or two years at the least. There are possibly one or two more deaths in this series that we do not know of, but I have kept in touch with all of the above cases very closely and a great many of them are under treatment and observation at the present time. There were 53 carcinomas, sarcomas and epitheliomas, all of long standing, most of them inoperable, 20 having been operated on one or more times without success. The mortality was all confined to these malignant cases, and none of the remaining cases died, except two of the three leukemia cases. This gives a mortality of 30.1 per cent in the malignant cases treated, a mortality 66.66 per cent in leukemia and no mortality in the remaining 29 cases of non-malignant conditions. Of course the above percentages are not the true story, for as time goes on up the five-year period for a cure, more will succumb and thereby raise the mortality.

Of the seven living cases of carcinoma of the cervix, primary and inoperable at the time they came to me, all are progressing nicely with one exception. She was one of the early cases treated nearly two years ago; was in a dreadful condition when she presented herself for treatment and will probably not live over six or eight months. (Six months later patient living and holding her own.) There are two cases in this series who have been macroscopically free of the trouble for over a year. The remaining four have showed no signs of recurrence for from six to twelve months. These cases represent an enormous amount of work, some of them having taken as high as six to eight thousand milligram hours of radium. Of the five deaths one of them received only one treatment. Two of them, two treatments, and the remaining three received

three treatments each. All except the first one improved greatly from the treatments. The first one was so far gone when she came to me that she really should not have received radium, but she came from such a distance that I gave it to her, hoping that it might check the hemorrhage and relieve the foul odor, which radium so frequently does. It is really marvelous to note in these advanced cases the general, as well as the local, improvement that takes place in two or three weeks after the first application of radium. I have seen patients emaciated, weak and completely toxic, come back after one or two treatments, having gained many pounds and saying that they felt remarkably improved and every one, without exception, saying that they had a "splendid appetite." Mortality, this group, 41.6 per cent.

Of the post operative cases with recurrence in the vagina, six in number, five are living. It is here that radium, in my hands, has done its best work. You will find an ulcerated condition or nodule and two or three applications will seal it in the one case and dissipate it in the other. Probably in four to six months it will recur in a new site, a little distant from where you first found it. The energetic treatment of this new site will eradicate it again, probably to recur several months or a year later in another location. The radium seems to cure the trouble or chase it, so to speak, from one location to another. In the meantime your patient is not inconvenienced by the trouble, is enjoying apparent good health and you are prolonging her life, and possibly curing a small percentage of these otherwise hopeless cases. Mortality, this group, 17 per cent.

The two cases of cancer of the tonsil and pharynx are still living. One has had no recurrence for ten months. The other is a recent case, only receiving the last treatment six weeks ago. It was truly remarkable to see how the radium cut this enormous tonsil out and permitted this young man to take liquid food and regain his strength. The lymphatic glands in the neck that were enlarged disappeared and our last report from him, written to me from his home, was to the effect that he was getting along splendidly. The ultimate outcome of

this case will be watched by me with a great deal of interest. (Six months later this case is now macroscopically well. This was a case of lympho-sarcoma.) The surgical experience that I have had with similar cases, even where the large blood vessels were ligated with complete and wide enucleation of the surrounding tissues, have all been failures.

The worst results that I have encountered in the use of radium has been in recurrent carcinoma of the breast. Of the six cases that I have treated, five are dead and one I have not heard from in about a year. The one that I have had no report on improved a great deal from the radium treatments, but was not cured when she quit coming for treatments about a year ago. Another one of the five deaths should not be charged to radium, as she died from pneumonia, following influenza. She was the greatest hope I had in these cases, as the nodules that had recurred in the line of incision had been dissipated from the two treatments that she took. Mortality, 93.3 per cent.

Of the two cases of cancer of the penis treated, one was post operative, the patient being over 70 years of age and practically moribund when he presented himself for treatment. I gave him only one treatment and sent him back to his physician, telling him not to return, as he was too far advanced for radium treatment. The second case was in a coal digger, epithelioma of the glans penis and urethra. Three radium treatments applied directly to the side of the lesion healed it and apparently cured him. I may say that he had been under treatment for three months, had had two negative Wassermanns and had the benefit of the best local treatment possible before he came to me. Six months later he returned to me with a recurrence of the trouble, but this time in the urethra. Three radium applications, 25 mg. each, in the urethra completely cleared it up, and he is again apparently cured. The last treatment was only administered last month, so I am unable to prognosticate what will happen in the next twelve months to this man. At any rate we have not lost any ground if he should have a return, and have spared him, so far, an amputation of the penis. Mortality, 50 per cent.

A case of sarcoma of the superior maxilla received five treatments in all, with improvement, but as the last two treatments showed such slight improvement, I advised against the continued use of radium.

A case of recurrent carcinoma of the back that had been operated on twice is one of the most striking instances of the beneficial effects of. This man, a painter, age 60, limped into the sanitarium with an enormous mass nearly the size of your head between his shoulders, saying that his physician had operated on him without success on two occasions and had referred him to our clinic for radium. At first I hardly felt it worth while to attempt the use of radium in this extreme case, but remembering a similar case that I had operated on five or six years ago, in which I had bombarded the healed area with hard rays a number of times and cured him (report five years afterwards), I decided to attempt radium in this case. Accordingly two small openings were made into the substance of the tumor mass and the radium buried deep down into it. Ten days later two more openings were made, swinging around an axis of 90 degrees from the former ones, and the radium again buried. I am glad to tell you that although it has only been about two months since this case was first seen, nearly the entire mass has disappeared, the patient says he feels splendidly and is back at work.

One case each of sarcoma of the sternum and the parotid gland proved fatal in six months from the time I saw them. A strange thing about both of these cases was that they both completely healed in less than three months, then broke down again and both died from severe hemorrhages three months later. I learned a lesson from these two cases, and that was that when radium has been used on a case of this kind and it returns, it is utterly useless to try it again.

The remaining sarcoma case in the series was one of the mastoid, operated on at the Mayo clinic, and given radium there following the operation. He came to me with a board-like neck, unable to turn his head and with no hope of ultimate cure, as at the operation it

was impossible to remove all of the pathological tissue. He was given 6,000 milligram hours of radium in the first two weeks that I saw him. Four months later when he returned, all of the stiffness had disappeared and he was able to turn his head and move his neck. A year later he was given 2,000 milligram hours of radium as a prophylactic measure, or rather, knockout blow. It has now been over two years since he first came to me and a recent report shows him to be entirely well at this time.

A mastoid sinus, following mastoid operation that would not heal, was given a half dozen light treatments of radium and closed at the end of three weeks. Whether it had anything to do with the closure or not I am unable to say.

There were nine cases of epithelioma of the face, two of epithelioma of the lower lip and one extensive case of epithelioma of the nose and eyelid that came to our radium department during the past two years. All of these cases responded, without exception, to radium applications. Some of them have been well two years, some one year, and a few only a few months. These are the easiest cases that come to us for treatment, and radium appears to be almost a specific for them. Of course, we do not know whether they are cured or not, for the five-year limit that we put on cure has not elapsed. The case of epithelioma of the nose and eyelid had been in progress eight years. Four applications of radium healed this case.

There were four cases of rodent ulcer of the neck. Three are apparently well and one is under treatment. He has been well twice, that is healed over, but keeps relapsing. On one occasion a mass behind the sterno-mastoid muscle the size of a turkey egg presented itself about an inch below the ulcer. I thought surely he was gone when this came, and was tempted to treat this mass surgically. Fortunately I withheld operating and, instead, buried the radium deep in this mass. To my surprise, it rapidly subsided and now the ulcer is again closing for the third time. The patient is gaining in weight and strength and it looks as though he is going to have some temporary

comfort and prolongation of his life, if not permanent relief. Two rodent ulcers of the cheek were treated. One was the size of the palm of your hand when he came to me. One could see the remains of the masseter muscle and also the superior maxilla and some of the teeth. One of the physicians at Camp Greenleaf, who had done a great deal of radium work at Johns Hopkins under Dr. Kelly, saw this case with me and advised massive dose of unscreened radium. He took three such doses. His general condition improved, but the area did not close in. He became disheartened, applied to a surgeon in Mississippi, who operated on him, removing a large part of the maxilla, with the result that the patient died some two or three weeks later. The other case of rodent ulcer of the cheek was one of seventeen years duration. He played a see-saw game during the entire time before he came to us, getting better at times and then relapsing, but never at any time were the ulcers completely healed. Six radium treatments healed the ulcers. The last time I saw him was about three weeks ago. He was so much improved both in general health and appearance that you could hardly recognize him as the man that first presented himself for treatment.

Leukemia, three cases. All these cases had been treated with radium at other clinics before they came to me. The spleen was enormously enlarged in all of them. The radium had taken the spleen down in the first instance. The patients knew of the rapid and wonderful effect that it had had previously, so sought relief of their symptoms the second time, but here, as in the returned sarcoma cases, once radium has been used and the trouble returns, it has not the same efficiency that it had on the first occasion. I succeeded, in all these cases, in reducing the spleen to a considerable extent and running the white blood count down to nearly normal. But in spite of these improvements, two of the patients have died, and no doubt the third one will. I should say radium, in these conditions, is an adjunct. Its effect is transient and temporary.

Uterine fibroids, five in number, were given



radium treatments. The work in these cases was not entirely satisfactory, for the reason that every one of the cases treated improved so rapidly and gave the patients such a feeling of well being that they stopped the treatment before the tumors were entirely removed. I have not used radium in massive fibroids, as large as one's head, as is recommended by some of the most ardent advocates of radium, but have limited its use to those of half this size or less. In every one of these cases, so far, the hemorrhages have stopped and the size of the tumor has decreased, in some of them, to a notable degree. It is said, upon good authority, (Dr. Howard Kelly, John D. Clark, S. M. D. Clark, C. Jeff Miller and other surgeons who use radium extensively), that every case of fibroid, erecept the submucous variety, is amenable to radium treatments. If this be true and radium should be limited to this narrow field, its discovery and applications to this one condition would be more than worth while.

Metrorrhagia, six cases. In this condition I have found radium to be specific. Without detailing to you the history of these cases, I have used it only where drugs, curettages, etc., have failed, and have met with success, using only one or two treatments in every case.

Keloids, warts, nevi, excessive growth of hair on face, six cases, have all responded to light doses of radium. For nevi, it has no equal. I have removed one on the side of the face as large as the palm of your hand.

Goiter. This is a very interesting and, I may say, new application of radium. It is said by some of the radio-therapeutists that radium will cure from 60 to 70 per cent of these cases (symptomatically), except, of course, in the cystic type of goiters. My experience has been limited to six cases. Time will not permit of detail. All of these cases were of moderate size and all suffered more or less from the toxic effects of the excessive secretion of the glands. One of these cases, a girl 21 years of age, has had no trouble for over a year and the gland is normal, or nearly so, in size. All of the cases showed reduction, by actual measurement, in the size of the gland,

and great improvement in the nervous symptoms.

The last two cases that I will report are angiomas. One, a child 18 months of age, came to me four months ago, and at that time the angioma was the size of a pullet's egg. Ten treatments, of two hours each, 50 mg. of radium applied in a wood screen, entirely dissipated the mass. Pictures taken when she came to me and when the angioma had disappeared, are very striking. Dr. Newcomet, of Philadelphia, at the recent meeting of the A. M. A., who has probably done more of this work than any of the pioneers in this line, told me that radium is really the only treatment that angioma should be submitted to at the present time. The case that I am reporting had had, under general anesthesia, four injections of boiling water with no effect. The radium caused this baby no pain, no discomfort, no ulceration, in fact except for the strapping of the wood block over the angioma for the two hours every ten days, she could not tell that she was receiving any treatment.

There are a number of other conditions for which radium is recommended, especially in eye conditions—cataracts, conditions of the lids, etc.,—but I believe that radium's most useful work, I may say, most general application, will be in the next few years, for carcinoma, and especially carcinoma of the cervix and uterus. It is in these distressing cases, where everything else has failed, that radium offers to those poor unfortunate creatures comfort and relief and holds out to them in certain definite cases the possibility of cure.

You will note that I have said nothing about x-rays, as compared to radium in the treatment of these and allied cases. X-ray therapy has its place in certain definite, well-established conditions just as thoroughly and as well as has radium. In some cases they overlap and it is with the individual preference of the therapist as to which shall be applied. They should not be in competition, one with the other, but should supplant and support each other. In our institution we use radium where radium is indicated, and the Roentgen ray where the Roentgen ray is indicated. I mean by this, where, in our own

personal experience, the one or the other has proven to be the most efficient means to a cure.

In closing I want to say that we hardly ever treat a case of malignancy of the cervix, the vagina, the rectum or the bladder with radium that we do not supplant it with x-ray treatments over the abdomen, endeavoring to reach the deep glands along the iliac vessels with the x-rays. We believe that this combination of treatment in the past year and a half has accounted for the prolongation of the lives of several of our cases of recurrent carcinomas of the uterus and vagina, preventing metastases from developing higher up. We use the radium as a rifle ball, so to speak, at the seat of the trouble and scatter our x-rays over the abdomen to catch any metastasizing glands that may be present.

I was deeply impressed with the Radium Section, and its papers, of the American Medical Association at the last meeting at Atlantic City. There I found, not radiotherapeutists alone presenting papers, but general surgeons, abdominal surgeons, gynecologists, genito-urinary surgeons, oculists and other specialists, all presenting papers on the use of radium in their particular lines. These men had no interest in radium other than for its beneficial effects on human disease. Having heard these papers and the discussions, I am even more confident that radium should be found in the armamentarium of every well-established clinic and that it has come to stay and, more particularly, to stay the rapidly increasing death rate of cancer.

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### THE INTERPRETATION OF REPORTS ON THE WASSERMANN REACTION.

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The Wassermann reaction has found a permanent place in medicine, yet the interpretation of its reports by the clinician is apparently of only minor or secondary importance. In his opinion, for the most part, the report signifies a positive or else a negative reaction. He fails frequently to appreciate the fact that it represents only one of the various "signs

and symptoms" of the malady in question, and that, taken in conjunction with others, aids in arriving at a diagnosis. The physician to whom the positive Wassermann means syphilis, and the negative Wassermann that the patient is free from syphilis is certain to meet disappointment.

Every physician who employs this test must, if he would intelligently evaluate the findings, have a general knowledge of its principles and sources of error, and a definite knowledge of its degree of specificity as determined by authentic research. He need not understand, necessarily, the details of the technic involved. If, however, he has a general knowledge of the principles upon which the test is based, he can form a more intimate and personal judgment of its value and limitations and will be able more efficiently to correlate the laboratory findings to the clinical aspects of his case.

It is true that the Wassermann test is quite technical in its details, but the principle involved is readily comprehended by one not familiar with laboratory work. When the *Spirochaeta* or *Treponema pallida*, the etiological factor concerned in the production of syphilis, enters the tissues of the body, there is set in the tissues a response to the invading organism and a changed condition occurs in the body fluids as a result. They now contain "anti-bodies," supposedly specific for the spirochaeta. It is upon the presence or absence of syphilitic "anti-bodies" that the Wassermann test depends. Realizing that a certain length of time must elapse to form these new substances, it becomes evident why low percentages of positive Wassermann reactions are obtained in early primary lesions, and gradually increasing in the secondary stage. If the organisms do not enter the blood, or if after gaining entrance they become enclosed and walled off in secluded areas of limited blood or lymph supply, it is again evident that "anti-body" formation will be delayed. Such conditions obtain in the first case in primary lesions, in the latter, in tertiary. The so-called "provocative" Wassermann is thought to be best illustrated in extreme cases of the latter condition.

The result of the test, taking for granted that it has been correctly performed, is merely an expression of the relative quantities of these specific "anti-bodies" present in the fluids. Even a negative finding does not necessarily mean that they are absent, but simply that they are not present in sufficient amounts to be detected by the test. A person either has or has not syphilis. But is a physician, if he were handed a slightly positive Wassermann report, justified in branding his patient a syphilitic without existing evidence in the way of signs and symptoms to support this report? On the other hand, with outstanding, unmistakable evidences of a luetic condition, on receiving a negative return from the laboratory, will he ignore his facts and declare the patient free from the disease?

It must be taken, supported by and correlated with clinical findings and when failure to comply with this rule occurs, one deprives the patient of his rights, subjects the serologist to severe criticism and tends to jeopardize the future of the Wassermann reaction—all of which are grossly unjustified through ignorance.

The serologist has the right to know and must know, something of the history of the case in question, not in order to submit a report, but to aid in the interpretation of his findings. This is especially true in obscure and border-line cases. To illustrate: An actual experience occurred last year in which a Wassermann test was desired on a patient's blood, from a doctor of good reputation. The test showed, and was reported, a one plus. No explanation or interpretation of its meaning was sought—only to be followed a few months later by an essay by this doctor severely criticizing the Wassermann reaction in general, and stating that its value as an aid in diagnosis had always been a source of doubt in his own mind, and in fact reports were misleading and dangerous. This case was cited as an example upon which he based his opinion, saying that a laboratory diagnosis showed the presence of syphilis and the patient was proved to be absolutely free from the disease. The true facts in the case are these:

A patient, without any signs or symptoms

of syphilis, asked to have his blood tested, was reported as having a one plus Wassermann reaction by cholesterinized antigen, the most delicate antigen in use. It is clear that with very little history, and a little common sense, a correct and conscientious interpretation could be had, viz., that of a negative. Had the patient, on the other hand, been under treatment, and the progress of the disease controlled by a Wassermann test, the interpretation would obviously have been slight evidence of existing syphilis, not yet cleared up by treatment. Hence the inestimable value of history in these cases.

Familiarity with the antigens employed in the test and in reports is highly encouraged and practically essential. The most delicate, viz., cholesterinized alcoholic extract of an organ is very valuable in controlling treatment cases and discovering early infections. The acetone insoluble product from the same tissue is less delicate and subject to a less margin of error.

Diseases, such as yaws, leprosy, etc., are said to give weak positive reactions, but such maladies are rare in this country, and practically negligible. Anti-syphilitic treatment renders an otherwise positive blood negative for a time, in the average case, four to six weeks from the last treatment, with various factors entering into the individual case, as intensity of and response to treatment, virulence of infection, etc. Ingestion of alcohol in large quantities, according to Craig and others, frequently changes a positively reacting blood to that of a negative.

The greatest value of the Wassermann test, it is generally conceded, lies in the control of treatment in ascertaining when a cure has been effected by searching for a return of the disease. Since the "anti-body" formation occurs comparatively late in the infection, the question arises whether it is advisable to await the presence of a positive Wassermann before treatment is begun.

One single negative Wassermann test should never be relied upon as definite proof that syphilis does not exist. It seems to be the consensus of opinion among workers that "No case of syphilis should be discharged as cured until at least four negative Wassermann reac-



tions have been secured, the last negative to be at least eighteen months after the treatment has been discontinued."

To aid the physician in the interpretation of reports the laboratory makes use of signs to indicate the degree of response to the test, using the standard acetone antigen. It may be well to consider these separately:

*Negative.*—When a negative reaction is obtained, it furnishes presumptive evidence against the presence of syphilis. As was mentioned above, many factors which determine the uncertain outcome of a Wassermann reaction may be present, such as insufficient quantity of anti-bodies to be detected, or absence of these substances in the circulating blood, etc., and still the patient have a luetic affection. A single negative is regarded with doubt in the presence of definite, positive findings clinically. However, this occurrence is extremely rare. Repeated negative tests are, of course, more convincing towards the absence of syphilis.

*One Plus.*—A one plus response has its greatest value in establishing a means of control in cases undergoing treatment. A much graver suspicion is excited when discovered conjointly with parallel clinical evidence. Taken alone, in the absence of such supporting signs and symptoms, its specificity is not definitely established. In any event a positive diagnosis is never justified upon a one plus reaction taken alone.

*Two Plus.*—A two plus reaction, supported by clinical evidence should always be regarded with suspicion; but where such evidence is lacking a diagnosis should hardly be warranted on a two plus Wassermann alone. It should certainly lead to careful observation of the patient, and all efforts be made to absolutely eliminate syphilis. In individuals undergoing treatment, showing a two plus Wassermann reaction, there is strong indication of the persistence of a luetic condition.

*Three and Four Plus.*—Three and four plus reactions, where yaws and other disease can be eliminated, and which, if present, very rarely react to such complete inhibition to result in a three or a four plus reading, represent conclusive evidence of syphilis.

In the various stages of syphilis the findings may be expected as follows:

(1) *Primary Syphilis.*—Positive Wassermann reactions have been obtained one week after the appearance of the primary lesion. On the basis of immunity, "anti-body" production in early cases as these is rapid and widespread. As a rule, however, a positive reaction occurs about 4 to 5 weeks after the chancre.

The diagnosis of choice, particularly in so obstinate a disease as syphilis, and where the early demonstration of the *treponema pallida* is paramount in importance, is by the dark-field illuminator.

(2) *Secondary Syphilis.*—There is no time during a syphilitic infection in which a positive Wassermann reaction is more likely obtained. The percentage of negatives in this stage is certainly less than two or three. Consistent with the theories of immunity, upon which the Wassermann reaction is based, secondary syphilis represents a disseminated manifestation remote from the initial lesion—likewise the systemic blood is laden or saturated with "anti-bodies," which are the determining factor or basis of the test. A negative in this stage is of more value than at any other time in excluding syphilis. It is evident that the administration of anti-syphilitic treatment will vary the results obtained in the Wassermann reaction in this as in other stages.

(3) *Tertiary Syphilis.*—Blood examination in this stage fails frequently to detect a syphilitic condition. "Anti-body" production is impaired or else, at times, practically suppressed, due to physical or mechanical barriers of fibrous tissue. Examination of the spinal fluid in the nervous type of affection frequently aids in clearing up the diagnosis by obtaining a positive reaction. The various phases of Nonne, as the cell count, albumen and globulin estimation and the Lange's colloidal gold test should be applied, if not adopted as a routine in these cases.

To summarize, if the clinician wishes to get the most that is possible from a Wassermann report, he must meet the following requirements:

(1) He must have a general knowledge of

the principles of the test and its sources of error.

(2) He should familiarize himself with the general meaning the antigens convey.

(3) He must share the history in suspected and border line cases with the serologist.

(4) He must know the effect of anti-syphilitic treatment upon the test, and become familiar with those diseases which tend to give positive reactions.

(5) He must accept a report as a finding which shall be weighed and taken in connection with the other evidence at hand.

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### EMPYEMA.\*

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G. R. McSwain,  
Paris, Tenn.

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The purulent form of pleural effusion is rarely primary, being more often a secondary process to some disease of the lung. Of these, pneumonia is the most common; occasionally tuberculosis or gangrene may be the primary factor. The process may extend from a neighboring organ, arise in the progress of some infectious disease, or may occur as a complication of suppuration in some other part of the body. A serofibrinous pleurisy may become purulent as a result of primary bacterial invasion. The pneumococcus, strepto, and staphylococcus, and tubercle bacillus are usually responsible for the condition, the pneumococcus being found most frequently.

The pleura is usually thickened, of a grayish or yellow color and covered with a rough purulent exudate. The entire pleura may be affected, or it may be confined to some smaller portion and the collection of pus be walled off, giving the so-called loculated empyema. There may be areas of ulceration and breaking down of the parietal or visceral pleura.

*Symptoms:* These are usually the same as in a serofibrinous pleurisy, except that the onset is more acute and more commonly associated with chills, sweats and higher fever; also there is a higher pulse and respiratory rate. The

signs of toxemia are usually out of proportion to the amount of fluid present. While the process is usually rapid and tends to become progressively worse, sometimes, rarely, the collections of pus may be walled off and the symptoms subside, the pus finally becoming sterile and the only noticeable symptoms will then be those of lung compression.

*Physical Signs:* These are the same as those of a serofibrinous effusion. The displacements of heart, liver and spleen are usually greater in this type, as is bulging of intercostal interspaces. Edema of the chest wall is much more frequent in a purulent effusion. Long standing cases may show clubbing of the fingers. Numerous rales are present above the site of the effusion, with flatness and decreased vocal fremitus.

The pus in some cases may burrow through and form a fluctuating abscess beneath the skin. The lower and anterior surface is the region where this occurs most frequently, as the chest wall is thinner here. Perforations of the diaphragm may lead to a grave form of peritonitis. Perforation of the stomach, intestines, esophagus or kidney have also been reported. A bronchus may be perforated, with large amounts of pus in the sputum, usually accompanied by pneumothorax.

After recovery there is almost invariably diminished expansion on the affected side and this defect usually persists for some time and may become permanent. It takes considerable time for the lung condition to become normal, as evidenced by diminished expansion, flatness at the base, absent breath and voice sounds and immediately above the area are numerous moist fine rales. Those cases which are allowed to persist for some time before being drained usually are accompanied by such extensive connective tissue formation in the pleura that complete re-expansion never takes place and may be followed by contraction of the chest and even by deformity of the spine.

*Diagnosis and Treatment:* While there are no physical signs by which we can state that an effusion is serous or purulent, there are certain findings that point to pus. Thus an acute onset with suddenly developing symptoms, edema of the chest wall, high tempera-

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\*Read before the Henry County Medical Society.

ture, chills and sweats with a hyper-leucocytosis call for an immediate exploratory puncture.

Cases of so-called unresolved pneumonia should be carefully watched. Cabot says that this condition is a myth and that it is practically always empyema. Cases of loculated empyema must be carefully outlined before making the puncture, as the abscess may be missed. Exploratory operation is justifiable in these cases. The treatment is that of pus in any other situation, which means immediate drainage.

*The Operation:* Resection of a rib is the procedure of choice in all cases, as simple thoracotomy is usually insufficient. One or more ribs may be resected. The mid-axillary line, sixth or seventh interspace or a line with the angle of the scapula in the eighth or ninth space is selected, but, of course, in any case the resection must be made over the pus. The operation can be performed under local anesthesia, but in children and nervous individuals a general anesthetic is preferable.

A cutaneous incision is made over the rib to be resected—usually about three to four inches in length. The tissues, including the periosteum, are divided to the bone; the periosteum is then stripped from the bone, both before and behind, care being taken in removing the membrane from the groove on the inferior border to avoid injuring the intercostal vessels and nerve. As soon as the bone is freed from the periosteum, a segment of the rib three or four centimeters in length is removed with the bone forceps or Gigli saw. When the bleeding has been stopped the cavity is opened by an incision through the periosteum, the internal intercostal aponeurosis and parietal layers of the pleura. One or more rubber tubes are introduced, which should be sutured to the skin or a "T" made to prevent the tube from slipping into the cavity.

After treatment consists in building up the patient, re-expansion of the lung and obliteration of the pleural space occupied by the pus is facilitated by respiratory exercises, such as blowing fluid from one bottle to another. Dakin's solution is now being used in obstinate

eases and sometimes injections of Beck's paste are used in persistent sinuses.

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### CLINICAL REPORTS.

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By John M. Maury, M. D.,  
Memphis.

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CITY HOSPITAL, NOV. 24, 1919.

*History:* This woman complains of severe pain in both iliac regions, starting one month ago. She has been in bed for about a month. Her menstruation first appeared at the age of 13, recurred regularly every 28 days, last month commencing October 20 and lasting to October 25. Her pain is constant, during menstruation and between periods. She has three children, oldest 10 years, youngest 5 years of age. Labors were normal, one month in bed. One abortion in 1915 at the fourth month. Was in bed one month and had fever for nine days. Leucorrhoea since she was 22, constant, but worse after menstruation. Urinates once at night and three times during the day. When she entered the hospital on November her blood count was 12,000, and she had a temperature of 100 or a little over. Since then the leukocyte count has gradually come down until now it is 7,200 with 66 per cent polys. Temperature soon went to normal, where it has remained the last eleven days. Urine examination negative, Wassermann negative.

*Examination:* Her general physical examination is negative. On pelvic examination, we find a small laceration of the perineum, vagina and cervix normal, uterus fixed and a rounded mass on the left side and behind in the region of the left appendage.

*Diagnosis:* Acute Salpingitis. Examined again on the 24th and previous examination and diagnosis are confirmed, except that the acute stage of the inflammation has subsided and the condition is now chronic.

*Remarks* prior to operation. The treatment in this case is typical of all cases of acute salpingitis that come into the hospital. As long as the acute stage lasts, the patients are kept in bed, not allowed to get up for anything, not allowed to sit up in bed and kept perfectly re-



cumbent. They are not often given douches during the acute stage unless there is an irritating leucorrhoea, and then only small douches, with the douche bag not more than one foot above the patient's hips, for purposes of comfort and cleanliness. We believe that a douche given with the douche bag several feet above the patient's bed produces traumatism, which is sufficient to keep the inflammation active. Temperature is recorded regularly. Blood counts are made at intervals of four days, oftener if necessary. Practically every one of these cases will, within a short time, get rid of their temperature, get rid of most of their pain, the inflammatory products will undergo a process of self-sterilization and undergo absorption. In the rarest of instances will the former bug-bear, general peritonitis, result in these cases of acute pelvic inflammation. Nearly every one of these cases undergo a process of self sterilization, so far as infection is concerned. As a result of waiting until this stage is reached before doing an operation the chance of scattering infection is done away with and because there is no infestive matter to be drained, we do not have to employ drainage, and by doing away with drainage we very materially lessen the chances of having a ventral hernia develop at a later date. In the course of the operation the wound may become soiled with pus, pus may be scattered throughout the pelvis, but the abdomen is safely closed without a drain being inserted. Of course, we employ every means that we possibly can to prevent soiling of the pelvic structures, but we cannot, however, always prevent this. Twenty-five years ago it was thought that every acute case must be operated upon for the purpose of preventing leakage into the general peritoneal cavity, and the starting up of general peritonitis. I have seen these acute cases operated upon by the best operators of those days (and no better ones exist today), with a much higher mortality than we get today by waiting for the acute stage to subside.

There is very little danger in waiting and with an increase of all the chances in favor of the patient. There are some individuals today who operate upon acute cases, but there are also those who contend against vaccination for smallpox and with just about as much rea-

son. In this case, we have waited for the acute inflammation to subside. During that time the inflammatory exudates have been absorbed, the mass in the pelvis has decreased in size, and while we will unquestionably find adhesions, still they will be reduced to a minimum and a great deal less damage will be done the intestines in separating them. In every way we feel that the safety of the patient has been materially increased by a little waiting before the operation is done. It may be argued that this is unnecessary and that it prolongs the stay of the patient in the hospital. We contend that it is necessary for the reasons that I have already given—a lower mortality and lessened morbidity, and that the stay of the patient in the hospital is not increased, because instead of staying a little while before the operation she will be obliged to stay longer after the operation when drainage is used.

*Operation:* On opening the abdomen, we find the left broad ligament turned over on top of a cyst. This may be a large pus tube, but it looks more like an ovarian abscess, and as we enucleate it, the escape of a little pus confirms the suspicion. After separating all adhesions to the tubo-ovarian abscess on the left side, the left broad ligament is clamped and divided. We make an incision across the face of the uterus above the bladder and shove down a flap of peritoneum, giving us something to cover the cervix with after it is amputated. We cut the uterine artery before we grasp it to be sure to get it, and to get it free from a mass of surrounding tissue, then cut across the cervix, come up on the other side after grasping the uterine artery on that side and clamp the right broad ligament beyond the ovary. Down on the left side and up on the right, clamping as we go the ovarians, the arteries of the round ligaments and the uterines, and removing the ovaries, tubes and body of the uterus.

We proceed to tie these arteries, taking first the uterines. We always pass the needle between the artery and uterus as we believe by so doing we lessen the chances of having the ligature slip before clotting has been completed. We have now tied the two uterine arteries, two ovarian arteries and two little arteries that run in the round ligaments. In this way we have controlled the bleeding in

the pelvis except from some oozing from adhesions. The very small amount of bleeding which we have now comes from the stump of the cervix, which we will proceed to stop by sewing the anterior and posterior halves of the cervix together. A figure of eight suture, the needle being inserted transversely to the pelvic axis, will bring the lips of the cervix together and close the cervical canal. The appendix is found to be very much elongated, tense and rigid. This is an inflammation which probably has extended from the appendages to the appendix.

Abdomen closed in the usual manner. All forelegs accounted for.

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CITY HOSPITAL, Nov. 24, 1919.

*History:* M. M., married. Menstruated first at age of 15 years. Irregular, every 90 to 100 days, continuing six to ten days. Slight intermenstrual pains. She had dysmenorrhoea. She has one child, has had one abortion at sixth month. Urinates three times during the day. Constipated, bloody urination. Blood count, 6,600 with 74 per cent polys. Urine negative. Wassermann negative.

*Previous History:* Abortion two years ago. Since then she has had pain in lumbar and ovarian regions. Constant bearing down with intermittent pains. Menses ceased one year ago.

*Family history* negative, except that father and mother and sister died with tuberculosis. Brother died with heart trouble.

*Present Illness:* About three days ago a sudden sharp pain struck her in r. l. o., and she fainted. Since then she has had constant bearing down, heavy sensation in lower half of abdomen, especially in r. l. o.. Had slight nausea.

*Pelvic Examination:* Vulva normal, slight laceration of the perineum, vagina normal, cervix small and undeveloped. Uterus, fundus backward.

*Diagnosis:* Undeveloped uterus. Hyperinvolution. Probably chronic salpingitis and appendicitis.

*Remarks* prior to operation: Except for the pelvic history, you will see that this patient has nothing abnormal except a few casts in the

urine. This does not always mean chronic nephritis by any means. In many cases of salpingitis during the acute stage or in the acute stages of any other inflammatory process in which toxins are being eliminated through the kidneys, you may find casts and a small amount of albumin. This simply means irritation of the kidneys. Functional tests of the kidneys showed elimination to be about normal. We, therefore, do not pay a great deal of attention to casts in the urine under these conditions except to satisfy ourselves that it is not true nephritis that we are dealing with, but simply the result of the elimination of toxins and, therefore, irritation of the kidneys. As soon as the focus of absorption is removed the kidney signs clear up.

This case is interesting because of the considerable amount of subjective complaints and the very small amount of demonstrable pathology. What we have here is a uterus which seems to be somewhat undersized and some tenderness in the region of the appendix. There is no fixation of the uterus and there are no masses to be felt about the tubes and ovaries. However, the woman gives a history of pelvic pain and she spends from six to ten days in bed at each period. Another interesting phase in this case, taken in connection with the size of the uterus, is the fact that her periods are from 60 to 100 days apart. The undersize of the uterus, it is not an infantile uterus, may be the result of hypo-function of the ovaries, or may be the result of hyperinvolution of the uterus following pregnancy. While resulting in dysmenorrhoea, neither one of these conditions causes intermenstrual pain or pelvic tenderness. Probably examination of the uterus and the ovaries after the abdomen is opened will throw some light on this condition. Practically all cases of undeveloped uterus are associated with dysmenorrhoea, with periods which are irregular in time, usually going over time, and they are frequently associated with sterility. If the uterus is so small as not to be able to take care of the ovum, of course sterility will be the result. In some cases the ovum finds lodgement in the uterus, partially develops and not being properly taken care of, abortion results. Usually after one pregnancy

has occurred, if it goes to term, the uterus returns not to its former size, but to the size approaching normal.

The treatment that I have found most efficacious in cases of undeveloped condition of the uterus is dilatation of the cervical canal with introduction of a stem pessary into the uterus, where it is allowed to remain two months, at least. There are instances of infection resulting from this treatment, but I do not consider that a reason for condemning it, because inflammation is a complication that may arise in any sort of surgical procedure. It is a warning of possible danger and indicates the necessity for rigid asepsis. The same treatment with the addition of the administration of the corpus luteum or the whole ovarian tissue usually gives good results in hyper-involution following pregnancy.

*Operation:* A median incision is made and the wound guarded against contamination by towel fastened to the edge of the wound by clips. The appendix can easily be reached through a median incision and both the uterine appendages are much more accessible through a median incision than an incision through the rectus muscles.

There is a normal ovary on the right side, the uterus is about two-thirds normal size. The ovary and tube on the left side are normal also, without any adhesions. Nothing indicates trouble in the pelvis. The appendix is enlarged and thickened from infiltration with inflammatory exudates. We conclude, therefore, that the intermenstrual pain and tenderness in the lower abdomen is the result of an appendicitis.

We will remove the appendix and proceed to bury the stump. This, while not absolutely necessary is, I think, a procedure which should be carried out whenever there are no contraindications. The preoperative diagnosis is borne out by the findings at the operation, with the exception that it was stated that she probably had chronic salpingitis, although there was no pathological evidence of it on examination. I think we were justified in our supposition, however, that there was chronic salpingitis, because of the amount of pain and tenderness this woman complained

of on examination. On opening the abdomen of patients suffering from pain on vaginal examination, without demonstrable pathology, we frequently demonstrate the presence of tubes closed by inflammation and ovaries which are bound down by old inflammatory adhesions. The inflammation has long since subsided and the exudates have been absorbed, so that there is really nothing left to be demonstrated at the examination. These individuals, however, suffer from pain and tenderness caused by the adhesions, and are entitled to an attempt made to relieve them.

The outfit of the hospital does not provide pessaries, etc., for treating these cases of undeveloped uterus, but I have done for this woman what the conditions allow me to do. All forceps have been accounted for. The abdomen is sewed up with layers of sutures, first the peritoneum, then bringing together the separated fibres of the right rectus, next the fascia, then a few silk worm sutures are put in, entering the skin on one side to be looped through the fascia emerging from the skin on the other side. These silk worm sutures were not put in with the hope of preventing the forcing of the intestines through the wound in case the catgut should be prematurely absorbed or give way for any reason. They are inserted and tied over a small roll of gauze, thus putting the pressure on the abdominal fat, and in this way lessening the chances of hematoma formation, a condition inviting infection. Anything that lessens the chances of infection of the abdominal wound is, of course, to be made use of. It lessens the patient's stay in the hospital and it lessens the expense to the hospital in taking care of her, and it lessens the chances of hernia forming, which may necessitate a second operation. The catgut and silk-worm sutures are removed about the sixth or seventh day and adhesive plaster is put across the wound to prevent separation of the skin.

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CITY HOSPITAL, NOV. 27, 1919.

*History:* E. M. R., colored, age 28. She has been ill for two and one-half years. She complains of a lump in the abdomen, is constipated, has frequent urination and thinks she



has hemorrhoids. The lump has been present a year to the patient's knowledge and her doctor told her she had a growth two years ago. The last period was the first one that showed any irregularity. First menstruated at age of 13, always regular every 30 days, lasting four or five days when normal, but last period continued two days. Menstruation was scant, color dark. Last menstruated on the 10th of last month, lasting two days. Has dysmenorrhoea, pain being in both inguinal regions. Pain usually lasts three to five days and she has to stay in bed three days. She has had no children, no abortions. Has leucorrhoea, which is worse after menstruation. Bladder does not disturb her at night, but acts frequently during the day. Bowels constipated, she having to take purgatives regularly. Urine shows some albumen, but no casts. Blood count running from 9,000 to 10,000 since she has been in the hospital, with the poly count about 66 per cent. Wassermann has not been made yet, but will be made this week. Temperature has been normal since she has been in the hospital.

*General physical examination* is negative, except on examining the abdomen there is a large tumor-like mass extending as high up as the umbilicus.

*Pelvic examination* shows vulva and perineum normal. Vagina is normal, but nearly filled with a globular mass projecting into it from behind. Cervix is high up behind the symphysis and flattened. Os slit like. Uterus intimately associated with a nodular mass reaching up to the umbilicus and down into Douglas' pouch, nearly to the vaginal introitus.

*Diagnosis:* Fibroma of the uterus.

*Remarks prior to operation:* The tumor grows below the level of the cervix, but it does not grow from the cervix itself. It is unusual to find a fibroid tumor growing from the cervix. The cervix differs from the body of the uterus in many ways. Embryologically it is developed separately from the body of the uterus. Histologically it is different, in that it has a larger amount of connective tissue and a smaller amount of muscular tissue and its epithelial lining and glandular arrangement is different.

Physiologically it is different, because in labor it undergoes dilatation while the rest of the uterus undergoes contraction. Pathologically it is different, in that its cancers are either of the adenomatous or squamous varieties, while carcinoma of the body is always of the adenomatous kind. Fibroids practically always spring from the body of the uterus, rarely, if ever, originating in the cervix. As you know, fibroid tumors of the uterus are most frequently found in women who have not had children. Whether this applies to the colored race as well as to the white race, I am not prepared to say. But my impression is that in the colored race the married and single are equally favored in this respect.

If the fibroid grows so as to interfere with the bladder, or if it grows so as to interfere with the rectum, we have, as in this case, irritation of the bladder and constipation. Or if it grows up in the abdomen and is sufficient in size to interfere with the stomach and intestines, we have digestive disorders. It usually does not assume such proportions as to interfere with respiration. Sometimes it will grow in the region of the ureters and press on them or kink them and result in distension of the kidneys. Under these circumstances infection is liable to occur, and we have pyelitis or some form of kidney infection as a result of the presence of the fibroid. Experiments made by injecting animals with pyogenic organisms show that the kidney in normal condition is able to take care of itself, eliminating the organism. But if the ureter is tied or kinked, or if the vitality of the kidney is in any way impaired, the cases that are injected will, in a certain percentage of cases, develop an infection in the kidney, whereas the normal ones will eliminate the organism and infection will not result.

It used to be taught that nearly all infections of the kidney were the result of an infection which started below and ascended the ureter. This has been proven to be erroneous, as nearly all kidney infections result from organisms carried to it by the blood stream.

*Operation:* In this woman, having had no children, the abdominal walls are firmer and not so relaxed as in the last case. We will, therefore, have to make a larger incision. We

start this incision above the umbilicus. In making our incision, we are careful to go through the peritoneum high up, because not infrequently these fibroids raise the bladder up in their growth, and if we make the incision low down we are apt to go through the bladder to start with, which of course, is undesirable.

We tie all arteries, controlling the bleeding in the usual way. Supravaginal hysterectomy with removal of both ovaries and both tubes done in the usual manner. There are no adhesions present, the operation presenting nothing unusual. Abdomen closed in the usual manner.

Examination of the rectum shows no hemorrhoids present.

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CITY HOSPITAL, NOV. 27., 1919.

*History:* J. R., colored, 45 years of age, married, well developed, nutrition good. First menstruated at age of 8, always regular every 21 days. Periods last three or four days. Amount normal. Last menstruation, however, was two months ago. Has not seen anything since. Dysmenorrhoea occasionally, hypogastrie and lumbar pains and bearing down, not forced to go to bed. She has had no children and no abortions. Occasionally some leucorrhoea, but not constant. Bowels constipated. White count has not exceeded 8,000 since she has been in the hospital, nor has the poly count been above 60 per cent. Has hemorrhoids, which bleed. Wassermann negative. Urine negative.

*Family history and past personal history* are negative.

*Physical examination* negative, except for abdominal tenderness.

*Present illness* began two months ago with severe lumbar pains and pains over the entire abdomen. Complains now of pain in the back, bearing down and intermittent pains in the abnormally difficult.

*Pelvic Examination:* Perineum, vagina and cervix normal. Uterus movable. On the right side a tender, globular mass the size of an egg, which is fixed by adhesions.

*Diagnosis:* Cyst of the right ovary. Chronic salpingitis and hemorrhoids.

*Remarks prior to operation:* This is one of those cases with marked subjective symptoms. The uterus is movable and there is a small globular mass on one side, probably cystic. Ordinarily these ovarian cysts are painless unless they become infected, so that the presence of the ovarian cyst without complications will not explain her pain. In the case, last Tuesday, we found nothing in the pelvis except a diseased appendix. This was all that we could find to account for a considerable amount of pelvic pain from which the patient continually suffered.

*Operation:* We find the cyst on the right side adherent with well organized, strong adhesions. The tube is in a condition of hydrosalpinx. This ovary, of course, being the seat of the cyst, will have to be removed. The question is, what are we going to do with the other ovary? We have no excuse for making an effort to save the ovary, because she is 45 years old and it is about time for menstruation to cease. The left tube is small, not adherent to anything, closed at the fimbriated end, but not distended with inflammatory products. The left ovary is undergoing atrophy, with a small cyst in it. The logical thing to do is to remove the tubes and ovaries. The uterus, which has a small fibroid nodule, will also have to be removed.

In a young woman with an ovary no more diseased than the ovary on the left side is we would, in all probability retain the uterus, because we would retain the ovary. In doing this, we always run the risk of having the ovary undergo cystic degeneration, from which the patient may suffer considerable pain, which not infrequently will necessitate an operation later on. A young woman could afford to run the risk of a second operation, but a woman nearing the menopause would have nothing to gain.

We make a median incision and after freeing the appendages from adhesions, the infundibulo-pelvic ligament on the left side and with it, of course, the left ovarian artery. A second clamp is placed on the broad ligament near the cornua of the uterus. The infundibulo-pelvic ligament is severed between the outer clamp and the ovary and the incision

carried down obliquely, approaching the uterus, until the round ligament is severed. The distal end of the severed round ligament is clamped and an incision carried across the anterior surface of the uterus going only through the peritoneum. With the handle of the scalpel the peritoneum is separated from the uterus down to where the bladder is intimately connected to the cervix by connective tissue. Beyond this it is not advisable to go unless the cervix is to be removed, because planes of connective tissue are opened, which will cause oozing and invite infection. The broad ligament is divided down to the level of the internal os and the uterine artery cut before it is clamped. By doing this, the artery can be clamped and tied without including in the ligature a mass of tissue, which would increase the chances of the artery subsequently slipping out of the bite of the ligature. After cutting across the cervix at the internal os the uterine artery on the right side is cut and clamped and the division of the right broad ligament made from below upward securing the round and infundibulo-pelvic ligaments with clamps before dividing them. The clamps are replaced with ligatures and the blood supply is then entirely controlled. In tying the uterine arteries the ligature is passed between the cervix and the artery by means of a needle to further lessen the chances of its slipping. Nothing is done to the cervical canal except to close it by passing a figure of eight suture, the needle being passed transversely through the anterior lip and again through the posterior lip of the cervix. Tying this approximates the anterior and posterior surfaces of the cervix and closes the canal. A suture is then passed through the anterior lip of the cervix, then through the end ends of the round and broad ligaments and through the posterior lips of the cervix. This, when tied, fastens the stumps of the round and broad ligaments down to the cervix, when all that is left to do is to bring the peritoneal flap which was stripped from the uterus over and fasten it to the posterior surface of the cervix. All raw surfaces are thus covered.

The appendix is found running upward and backward to the outside of the cecum. It is ligated, divided and seared with the actual

cautery. Abdomen closed in the usual manner. Forceps all accounted for.

*Rectum:* Ordinarily we do not like to do an operation on the rectum after doing an abdominal operation, as it is sometimes necessary to employ proctoclysis and dilating the sphincter prevents the retention of fluids. In this case, however, such procedure will not be necessary. The operation which we prefer for hemorrhoids is that of the clamp and cautery, as pain with the cautery is much less than with the ligature and the patient is more apt to be able to empty the bladder voluntarily. Hemorrhoids removed with the clamp and cautery.

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CITY HOSPITAL, Dec. 9, 1919.

*History:* C. T., colored, widow, age 25 years. Has been a widow one year. Weighs 111 lbs., poorly developed, anaemic.

*Present illness:* Two weeks ago complained of sore abdomen and pain, which was quite severe and lasted until she came to the hospital. Had sharp pain around the umbilicus. Some discomfort on urination. She has been troubled with pain, mostly on the right side, for the past year, also has hemorrhoids.

*Previous history and family history* negative. Menstruated first at age of 13, has been regular, 28 to 30-day type. Period lasts from three to five days. Amount is normal. Last period October 23 to 30. She suffers from dysmenorrhoea, the pain being dull, bearing down in character and continues for three days after the flow is established. She has no children, has had no abortions. Has had leucorrhoea for two years, thick, white and mucous in character, worse before menstruation. Urinates twice during the night, four or five times during the day. Frequency of urination increased by standing and walking. Bowels are constipated.

*Pelvic examination* shows vulva distorted by scars of an old ulceration, particularly about the perineal region, and extending into the vagina. The ulceration is now healed. Cervix is to the left and fixed. Fundus can be felt on the left side of the pelvis. There is a mass the size of a small orange on the right side of the uterus, which feels as though it might be



between the folds of the broad ligament. Examination of the rectum reveals a stricture, barely admitting the tip of the index finger two and one-half inches above the anus.

*Diagnosis:* Fibroma of the uterus, probably complicated with salpingitis, and stricture of the rectum.

*Remarks prior to operation:* We have had a number of cases of stricture of the rectum in the hospital this fall, most of them accompanied with pelvic pathology. Some have been complicated with a recto-vaginal fistula, and all of them have had a four plus Wassermann. Just what relation syphilis has to these cases of stricture of the rectum is rather hard to determine. Nearly all of them show a positive Wassermann, but treatment of the syphilis will not cure the stricture. A stricture of the rectum must be dilated and if necessary divided with the knife. The fistulae must be treated according to their location and the pelvic trouble must be operated upon, but no treatment of syphilis that we can administer will have the slightest effect in relieving the rectal stricture. It must be treated independently. In this case we first dilated the stricture a month ago, but made no headway by passing rectal bougies, and therefore ten days later we divided the stricture with the knife, making an incision through it along the posterior wall of the rectum, dividing it fully. Since then, rectal bougies have been passed every other day. As a result, the rectum is now healed and of full calibre. There is no fistula, so we proceed to do this morning what is necessary for the pelvic condition. This is the sixth case we have had this fall. The other cases have all been relieved and sent out in good condition.

*Operation:* Dec. 9, 1919. Everything is a mass of adhesions. We start by separating omental adhesions from the bladder and from the anterior wall of the abdomen. The tumor grows in the folds of the broad ligament and this is always a tedious and difficult operation. Salpingitis has caused pelvic peritonitis and adhesions, which bind everything down. We enucleate the ovary and tube from a mass of adhesions on the left side. Having done this, we can get at the infundibulo-pelvic ligament, through which runs the ovarian artery. We

put two clamps on the infundibulo-pelvic ligament and cut between them, clamp the round ligament and carry the incision down through it, make an incision through the peritoneum across the face of the uterus and shove it down to the level of the internal os. We then divide and clamp the left uterine artery. We sever the cervix and clamp the uterine artery on the opposite side; then coming up on the right side we enucleate the tumor from between the folds of the broad ligament, reach the round ligament, clamp and divide that. Finally, clamp and divide the broad ligament on the right side near the uterus. After getting the mass out of the way, we proceed to enucleate from a bed of adhesions the tube and ovary of the right side. When that is done, all of the bleeding points are under control. The clamps are replaced, of course, by ligatures. Then the stumps of the broad ligament are sewed down on each side to the corresponding side of the cervix. The peritoneum, which was stripped from the anterior face of the uterus is brought over and stitched to the posterior surface of the cervix, in this way covering all raw surfaces.

This woman has been so long under the anesthetic (an hour and a quarter), it is not advisable to go after the appendix, especially as it has not come into view. All forceps accounted for. This patient we will keep on continued proctoclysis, as she has lost a considerable amount of blood.

All tumors lying between the folds of the broad ligaments are more easily and safely enucleated from below upwards. Had there been a second fibroid in the broad ligament of the opposite side, we would have started by bisecting the uterus to the level of the internal os. Then, cutting across the right half of the cervix and tying the uterine artery, would have enucleated the tumor, and working upward, severed the round and then the broad ligament on the right side and followed the same procedure on the left side.

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CITY HOSPITAL, DEC. 16, 1919.

*History:* M. M., colored. This woman is 42 years of age; married; well developed, nutrition good. She has had ten children, four liv-

ing, six dead. She has had five miscarriages. Her labors were normal, except the last, in which the placenta had to be delivered manually. She comes to the hospital on account of an abdominal tumor. Menstruation began at the age of 11, recurred regularly every twenty-eight days and lasted four days. The flow was normal in amount until the last year, since which time it has been more profuse. The bladder is emptied four times during the day and she gets up four times each night. Standing and walking increases the frequency.

*Present Illness:* For seven years she has had a mass in the lower abdomen, which has increased slowly in size. She has had no discomfort from the mass until two months ago. Since then, any sudden movement causes pain in the left side.

*Physical examination* is negative, except for the presence of the mass in the abdomen.

*Pelvic examination:* The perineum is lacerated on the left side. The anterior vaginal wall is pushed down by the abdominal tumor. The cervix is high up in front and moves on moving the abdominal growth. The uterus is incorporated in the abdominal growth, which fills the lower abdomen and reaches above the umbilicus. It is globular in shape, soft, almost fluctuating, with some two or three firmer masses in it. The blood picture is within normal limits and the urine is negative. Wassermann is negative.

*Diagnosis:* Fibroma of the uterus.

*Remarks prior to operation:* This case presents some unusual aspects. In the first place it is unusual to find a colored woman who has had so many pregnancies. In our experience, after a very much fewer pregnancies, the tubes become disabled as a result of infection by the gonococcus, putting a stop to further pregnancies. When she was first examined, the soft, almost fluctuating tumor gave the impression that it might be a cyst.

The history shows, however, that the tumor has been present for seven years, which is longer than one would expect a cyst to be present without reaching a much greater size. It has been stated that within three or four years, in the average case, a cyst reaches proportions

sufficient to jeopardize the life of the patient. Again the history shows that in the last year the periods have become more profuse. Ovarian cysts do not produce menstrual disturbances. In addition, the pelvic examination shows the uterus to be incorporated in the tumor mass, while in ovarian cysts the uterus lies anteriorly to the tumor.

*Operation:* Median incision from two inches above the umbilicus to the pubes. The peritoneum is opened just below the umbilicus because fibroids sometimes, in their growth, carry the bladder upward, and if the abdomen is opened low down there is danger of wounding that organ. The deep red color of the tumor confirms the diagnosis.

We find a large, globular fibroid resting on the rim of the true pelvis and reaching up into the abdomen above the umbilicus. There are no adhesions and the high position of the growth makes it easy to get at the broad ligaments and brings the uterine arteries within easy reach. As the patient is 42 years of age there is no reason for trying to save the ovaries and they, with both tubes, will be removed with the tumor.

In closing the abdomen, we feel that we will have a stronger abdominal wall by removing the umbilicus and cutting through the edge of the sheath of the recti muscles, exposing them the length of the wound. The posterior layer of the sheath with the peritoneum is brought together by a continuous suture. The muscles of the two sides are also sutured and the upper layers of the sheath approximated in the usual manner. At intervals of an inch, silk-worm gut sutures entering on the skin surface and taking in the fascia with a figure of eight arrangement in the manner so frequently seen, are employed. We do not do this with the hope of preventing protrusion of the intestines in case the catgut sutures should give way from any cause, because we have seen this very thing occur in spite of the presence of these silk-worm sutures. What we do expect, however, is to prevent hematoma formation in the subcutaneous fat by tying them over a roll of gauze. The gauze prevents the sutures from cutting the skin and makes the pressure more uniform.

*Examination of the Tumor* shows a soft, dark

red, globular mass. On section it is seen to be made up of three larger and innumerable smaller fibroid masses separated by loose connective tissue, which is very oedematous. The oedema is the result of a passive congestion. It sometimes accumulates in certain areas in these tumors with resulting cystic formation. Why it has occurred in this tumor we are unable to explain, because there was apparently no obstruction to the return circulation.

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CITY HOSPITAL, DEC. 16, 1919.

*History:* L. G., age 20; married. One child; delivery instrumental. Menstruated first at 17 years of age. Periods every 30 to 60 days; flow normal in amount, but contains clots. Bowels regular. Some leucorrhoea. Gets up once each night to urinate. Comes to the hospital because of dysmenorrhoea and a bearing down feeling in the pelvis, with a feeling of weakness.

*Physical Examination:* Is negative, except for tenderness over the lower abdomen, more marked on the left side. On entering the hospital the white count was 11,200, with 68 per cent polys. Since being in bed a week the white count is 7,000, with 73 polys. Wassermann negative and urine normal.

*Pelvic examination* finds uterus in a position of extreme retro-displacement with a small laceration on the left side without eversion.

*Diagnosis:* Retroflexion of the uterus with salpingitis.

*Operation:* The usual median incision. We find the uterus as described above, but both tubes are normal. The mass felt on the left side is an ovary which contains some small follicle cysts and a large corpus luteum. We will replace the ovary without doing anything to it and proceed to do a Gilliam operation on the round ligaments. This is, as you know, simply bringing up each round ligament through a punctured wound in the abdominal wall, one and a half inch lateral to the incision, to the upper layer of the sheath of the rectus on the side to which it belongs. A number of operations have been devised for holding the uterus forward and there have been several modifications of the Gilliam method, but we prefer

the original when we do any. A certain proportion of uterine displacements do not complain of anything and these we let alone. One of the most frequent complaints is that of a bearing down feeling, with weakness, and this is one of the reasons why our patient comes to the hospital. As pointed out by Graves, this is not simply the result of a turning backward of the uterus, but is caused by a coexisting decensus.

None of the operations for retro-displacement correct the decensus, except the original Gilliam and we have seen other operations hold the fundus forward in excellent position, but without giving relief to the bearing down feeling. The appendix is normal, but removed as a prophylactic measure. All forceps accounted for, and the wound closed in the usual manner.

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CITY HOSPITAL, JAN. 6, 1920.

*History:* R. R., colored; widow. Comes to hospital on account of pain in the right lower abdomen. Has been a widow two years and three months. Is well developed; nutrition good. Menses first started at age of 17, always regular every 28 days, period lasting from three to four days. Last menstruation lasted from November 30 to December 3. She has dysmenorrhoea at times, pain being in the right inguinal region, with bearing down feeling. Dysmenorrhoea lasts one or two days after the flow starts, usually is in bed two or three days with each period. No intermenstrual pains. Has one child two and a half years of age; stayed in bed nine days and was well when she got up. Has had no abortions, leucorrhoea since she was 14, offensive, constant and worse after menstruation. Gets up three or four times during the night to empty the bladder, bladder acts ten to fifteen times during the day, frequency increased by standing or walking. Bowels regular. Urine negative, except that there is some pus in it. When she came to the hospital her total leukocyte count was 16,700, with 78 per cent polys. In the last fifteen days, during which time she has been in the hospital, the leukocyte count has gone down to 6,950 white cells, with 63 per cent polys. She has four plus Wassermann reaction.



*Previous History:* Negative, except that she had pleurisy fourteen months ago.

*Present History:* About ten days ago she commenced having pain in the right inguinal region. Has had hemorrhoids for the past ten days. Burning on urination, starting with the flow of urine.

*Pelvic examination* shows vulva covered with a leucorrhoeal discharge, perineum in good condition, vagina considerably reddened and partly obliterated by a mass between the upper part of the vagina and the rectum, pushing forward into the vagina. Uterus is pushed anteriorly. Hard induration between the vagina and the rectum, which also extends out on both sides, particularly to the left. Everything in the pelvis is fixed.

*Diagnosis:* Pelvic Cellulitis.

Examination one week later showed a breaking down of the indurated mass behind the vagina, resulting in a fluctuating area just below and to the left of the cervix. This we take to point to an abscess which has formed in the indurated cellular tissue.

*Remarks:* Pelvic cellulitis is a condition which occurs as a result of puerperal infection or as a result of infection after operation or through instrumentation. Infection takes place generally in the uterus or vagina, does not extend to the tubes as gonorrheal infection does, but travels along the lymphatics and blood vessels in the cellular tissue. It is very easily distinguished from either chronic or acute salpingitis. There is a roofing over all the wall of the vagina by the indurated cellular tissue. This usually extends to a greater extent to one side than the other, but practically is always on both sides. There is a peculiar smooth, hard feel, which is entirely different from the nodular mass which you find on examination in a case of salpingitis. The progress of salpingitis depends on the nature of the infective organisms and on the amount of resistance of the individual. Some cases undergo resolution with absorption of the inflammatory products; others go on to the formation of an abscess, which if not opened may extend through the pelvic structures, opening sometimes into the bladder, sometimes near Poupart's ligament and sometimes into the intestines.

*Treatment* of these cases is the treatment of infection anywhere else. The case is kept under observation and an effort made to determine whether suppuration will take place or whether resolution will result. This is not always an easy matter to determine. In this case, although the temperature is normal since the first two days in the hospital and the leukocyte count is now normal, still we find on examination a softened fluctuating area, which we take to be an accumulation of pus. This, of course, must be evacuated. If possible the abscess must always be evacuated through the vagina. If, however, the focus of suppuration is in the iliac regions, an abscess pointing above Poupart's ligament, then, of course an incision must be made wherever the pus is most easily evacuated. Making an incision in the vagina to evacuate the pus, this incision should always be made posteriorly to the cervix for the purpose of avoiding the ureters and the uterine arteries on either side of the cervix. The etiology of this case is not clear. She denies a puerperal history; gives no history of operation. It is evident that infection must have originated at some point in the vaginal canal.

*Operation:* An incision is made through the vagina over the softened area. There is evacuated a cloudy fluid, one and a half ounce in quantity. A culture will be made to determine the infecting organism. The cavity is shallow and the opening free, so we will not put in a drainage tube.

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### INDICATIONS FOR VERSION AND OTHER CONSIDERATIONS.\*

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By W. T. Pride, A. B., M. A., M. D.,  
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Version may be defined as an operation to change the position of the foetus in utero. The operation is an old one; as far back as Hypocrites we have data upon the subject. However, it was only attempted in transverse pres-

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\*Read before the Obion County Medical Society.

entations and cephalic was the only variety of version known. If version was unsuccessful, the child was mutilated with hooks and removed in pieces.

Podalic version, of which I shall speak, was known to the Romans and practiced with some degree of success, but forgotten in the Middle Ages. About the sixteenth century, Ambrose Pare revised and improved the operation which has been practiced by all succeeding generations.

The operation has always been considered difficult and attended with rather high mortality for mother and child. Naturally, on account of its serious nature, the indications have been comparatively few, and even those given have not been generally practiced. It is my purpose in this brief paper to show you how easily this operation is performed and add to the list of indications, hoping to help to make it more frequently used and to make the use of instruments less frequent.

The indications in general are as follows: Transverse presentation, placenta previa, eclampsia, premature separation of a normally situated placenta, prolapse of cord, or anything requiring immediate delivery. These are the indications agreed upon by all. I wish to add, head presentations, in which a version will give better results and these are R. O. P., L. O. P., face, brow or chin, and any position if labor is prolonged.

In posterior positions of the occiput labor is slow, the head being in the hollow of the sacrum. The diameter which has to pass out at the vagina is such that assistance with forceps is almost always necessary, with the result that the perineum is lacerated and probably a disfigured child is born. The child would not be injured if one were lucky enough to always diagnose the exact position and apply instruments accordingly, but how many of us do this? So my contention here for a version is correct if I can successfully do a version.

Second, a face, brow or chin presentation must be changed if we are to save mother and child in good condition. As the diameter here which must pass through the pelvic canal is greater than the true conjugate, in fact is 13.5 cm., where the true conjugate is rarely over

11 cm., and the oblique 12.75 cm., so again version is indicated if successfully done.

Third, with slightly contracted pelvis when the head will not engage properly, it has been customary to use high forceps, mutilating mother and child. This practice is often followed by infection. Here again, podalic version is indicated.

Fourth, whenever labor is too slow and the mother is exhausted, even though the position of the head is good, version is indicated.

Now let us see what the contraindications to a version are:

First—Greatly enlarged head, as in hydrocephalus.

Second—Markedly contracted pelvis, as the rachitic pelvis.

Third—Head firmly engaged and cannot be raised.

Fourth—A cervix that is not dilated nor dilatable.

If there is great disproportion between the head and pelvic canal a Caesarean section is indicated. Certainly, by the proper diagnostic method, we are able to know this and not attempt a version; no more would we attempt the use of instruments.

I find occasionally that the head is too far down and too tightly engaged, in other words cannot be lifted up, and consequently it is impossible to turn the child.

There are two methods of version, if we read text-books, *external* and *internal*, but in practice there is only one, and that is the combination of the two. It is possible to change the child's position, before labor begins, by external manipulation alone, but the head having slightly engaged itself it can only be changed by the combination of both methods.

The method of procedure when the cervix has fully dilated, or is dilatable: Chloroform is administered, the patient placed upon a table in the Walcher position, the parts shaved and prepared in the usual manner, and catheterized. This last is a necessary procedure in any case. With sterile rubber gloves, preferably to the elbow, the perineum is well dilated and this is the secret of success. The right or left hand is introduced, depending upon which side the child's back presents, for

the corresponding hand is always used. The head is then pushed upward and, with the external hand manipulating over the abdomen, the hand passes the head, at same time noting the size and whether the cord is around the neck, where the placenta is attached, etc. The water is then broken and the feet are sought and both grasped. The external hand is now moved to just above the symphysis, and with it the head is pushed up and around while the traction is exerted with the internal hand by pulling gently upon the lower limbs.

In pulling the feet down, be sure the heels present anteriorly, just as the occiput should. Never allow them to point posteriorly. The feet delivered, the buttocks delivers itself with a twist like motion. Enough traction is exerted to bring the scapula into view, the finger is then introduced and hooked around the arm at the elbow. Delivery of both arms in this manner prevents fracture of the humerus.

A little more traction downward and the finger of the left hand is placed in the mouth of the child and gentle traction is made, while pressure above the symphysis upon the head pushes it in a flexed position outward, and the baby is delivered in this flexed position. The great trouble in the past has been incomplete dilatation of the cervix and that the physician did not dilate the perineum, both of which would press upon the cord and strangulate the child; and lastly the head was allowed to extend, hence the long diameter caused an almost impossible delivery, killing the child and mutilating the mother.

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### THE PRACTICAL PHASE OF BLOOD PRESSURE.

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By Crockett D. Robbins, M. D.,  
Gallatin.

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The large number of examinations done under the recent Selective Service Draft has convinced the world that a man is just as old as his circulatory system. Therefore, a review at this time of the most salient features of blood-pressure may be of interest.

The first record of blood pressure our liter-

ature shows begins in 1828, but it was little thought of until 1876, when an instrument was invented, with which systolic and diastolic pressures could be measured. There was no general use of the blood pressure instrument until 1896, when the Italians gave us an instrument from which all the modern ones are patterned.

*Definition.*—By blood pressure, we mean the tension of the blood upon the vessels in which it circulates.

The real diagnostic and prognostic value of this information has been utilized only for just the past few years. As evidence of its importance in our routine work, I desire to quote one of our best diagnosticians when asked the question: "When should the general practitioner measure blood pressure?" replied, "In the first examination of every patient."

Blood pressure is divided into systolic and diastolic; systolic being the highest pressure, and occurring during systole of the heart; diastolic is the lowest pressure, and occurs just before systole. The difference between these two, measured in a scale of millimeters, indicates the pulse pressure.

*Methods of Measuring.*—The method is the same whatever the instrument used—of which there are many.

A blood pressure instrument, in brief, consists of a pneumatic band of four to six inches in width, which is connected with a column of mercury, along side of which is marked a scale in mm., or a spring instrument with a dial marked in like manner.

Place the pneumatic band around the left arm above the elbow, at the level of the heart. With a pump fill the pneumatic band with air until the pulse is obliterated below, this being determined by auscultation rather than palpation. Now release the pressure in the bag and the moment you hear the return of the pulse below, with your stethoscope, is the point to read your systolic pressure—say 120 mm. Further, when you find the pulse beat to disappear—at this point read your scale again for the diastolic pressure—say 90 mm. Pulse pressure is the difference between these numbers, or 30 mm.

This is a simple process, and on the face



of it does not seemingly mean much, but Richard C. Cabot says: "I regard the measurement of blood pressure as the most important of all the resources that have been added to our armamentarium as physicians in the last fifteen years, and have been saved from wrong diagnoses and put on the track of right ones more often by that machine than anything else, save the stethoscope." Should we not, then, become better acquainted with the uses of this valuable instrument?

*Factors on which blood pressure depends:*

The factors which influence blood pressure directly are: The strength of the heart muscle and the amount of peripheral resistance which it has to overcome this last being estimated in terms of the amount of contraction and the flexibility of the vessel walls.

Systolic pressure indicates the real strength of your patient's heart, while the diastolic pressure gives an estimate of his systemic resistance; thus demonstrating the high relative importance of diastolic pressure in calculating the clinical value of a blood pressure reading in reaching a diagnosis.

If by the use of this instrument, one is to determine whether his patient is normal or abnormal, it is well to understand about what is a normal pressure. There is no fixed standard for this matter, but we can obtain a working knowledge from the following:

Systolic pressure from one year to twelve years, is from 70 mm. to 105 mm.; from twelve years to thirty years, 105 to 130 mm. After thirty systolic pressure begins to rise normally, and runs from 120 to 160 mm. according to age and conditions. The diastolic pressure for this scale is approximately two-thirds of the systolic.

*Physiological variations in blood pressure:*

In order to use blood pressure as a guide in the care and treatment of a patient, it necessarily must be taken frequently, bearing in mind that there are many physiological as well as pathological variations.

First.—The location of the cuff. It should be on a level with the heart. If above it will show a lower reading, and if below the heart it will show a rise in the pressure.

Second.—Likewise, the position of the patient influences the reading, being higher in the reclining than in the sitting position.

Third.—The pressure taken after meals, deep breathing, exercise and especially nervous and mental stimulation shows a marked physiological rise, while sleep produces a decided fall in pressure.

Fourth.—A word about altitude: Ten years ago while my teacher was telling me to be guarded in advising heart patients and tubercular patients to go to mountainous climates, I really could not properly understand why a man would be liable to cardiac failure or a pulmonary hemorrhage. But now we know that altitude readily influences a rise of pressure. And we can give such patients mathematical advice as to his safety and the benefits to be derived from climatic changes. The rarefied atmosphere causes an increased respiratory rate, which, in turn, accelerates the heart beat, and, too, a lower temperature brings about a constriction of the peripheral blood vessels. These in their turn are the factors which cause the rise.

It is evident, therefore, in view of these physiological influences, that a blood pressure should be taken under the same surroundings and influences, that one may determine what impression treatment is making on a patient.

Other causes which operate to influence the tension in the blood stream are diseases, drugs, hyperstimulation of certain glandular secretions and autointoxications. These four divisions are, in themselves, enough for a voluminous essay. This conclusion is sure, that any cause whatsoever, producing an abnormal blood pressure should be treated with the same gravity as a disturbed temperature or pulse rate—and often times more.

One of the earliest indications of pulmonary tuberculosis is an abnormally low blood pressure. And in its most incipient onset there is no single observation of more importance in reaching a conclusion—save finding the tubercular bacillus.

A great many lives would be saved for usefulness in caring for the middle aged and older men who are living a strenuous business life in this modern day, if we looked more carefully

to their blood pressure and pointed out the red flag of certain danger which may indicate the development of fatal cerebral hemorrhage or a hopeless paralysis.

When rebuilding the broken compensation of cardiac insufficiency, there is no better guide than to take a blood pressure after proper physical tests, to ascertain the result of treatment.

In fact the sphygmomanometer is the friend, alike, of the anesthetist, surgeon, specialist and general practitioner.

Restating ourselves, then, if we make a pressure test in the first examination of every patient and find it abnormal, we have not discharged our whole duty to this patient, until the cause is located and removed if possible.

#### DISCUSSION ON THE PAPER OF DR. ROBBINS.

Da. J. J. Waller, Oliver Springs: Dr. Robbins has presented to us a splendid paper, and I wish to call attention only to one point in connection with it. When we estimate blood pressure and find it elevated, we are prone to think of sclerosis of the arteries or possibly nephritis, either of which may be present in a number of the cases. It is not of that class I wish to speak, but it is another class that Albutt has described in his work of what is known as hyperpyesia and that is a rise in blood pressure where we cannot verify the existence of a renal complication or disease in the case; neither can we attribute it to sclerosis of the arteries.

As to analysis of the urine we do not find chemical findings there that would warrant us in making a diagnosis of nephritis, and we are left in the lurch, so to speak, as to what is causing this high blood pressure. If our patient is beyond the age of sixty, we may think it is sclerosis of the arteries. If he is forty or fifty years of age, we may think of nephritis developing. At any rate, from the age of forty to sixty, if we find hyperpyesia, it behooves us to investigate the case and not conclude too soon that we are dealing with Bright's disease or sclerosis of the arteries. If possible, we should thoroughly search the system and make a thorough analysis. We should carefully analyze the functions of all the organs and see if we cannot locate the cause of this high blood pressure, not write our patient's death warrant too soon.

#### HEADACHES FROM EYE STRAIN.

By Edward C. Ellett, M. D.,  
Memphis.

The fact that headaches may be due to eye strain, for I think we can safely admit that it is a fact, is a comparatively recent addition to our knowledge. The first to emphasize this connection were Drs. Weir Mitchell and William Thomson, both of Philadelphia, the former the well-known neurologist, the latter an equally well-known ophthalmologist, who reported cases which they had jointly observed in which headaches were relieved by the use of glasses. The opportunity of testing these conclusions was open to so many that it was only a short time till other observers had abundantly confirmed what these two gentlemen claimed, and there are now few clinical facts more generally recognized. In fact, so much opportunity is given to everyone to gain experience with this instance of cause and effect, that one can speak with considerable certainty of many points in connection with it, there still remaining some other points on which there is a difference of opinion.

It may be well to recall a few facts in connection with the anatomy and physiology of the organ of vision that we may be reminded of the tremendous possibilities for all sorts of reflexes to start in this organ. Besides its great vascularity, and the exquisite sensitiveness of its nervous elements, its close connection with the nerve centers through abundant nerve fibres, motor, sensory and sympathetic, give it the greatest facility for the transmission of all sorts of impulses and sensations, good and bad, where they can do the most harm.

Eye strain is muscle strain. The only thing about the eye that can be strained are the muscles, and it is important that we remember that the muscles are of both the voluntary and the involuntary kind. Except during sleep, the eye is never at rest. While theoretically so when we look at distant objects, we spend so much time within four walls that

our gaze is practically always centered on objects. Eating, for instance, is always as much of an effort for the vision as reading, and carried on at almost the same distance, and since most of us have pardonable curiosity as to what we eat, we look at food on the plate rather intently. Therefore, one may not use the eyes much for reading or writing or sewing, and yet in other ways do quite as much work with them as if he did.

Eye strain, and its remote effects, is rarely seen, or at least rarely complained of and recognized, in the early years of life. Up to about seven or eight years of age, therefore, we do not expect to see headaches or other symptoms, except squint, from this cause. After that time, however, I have the impression that the eyes are responsible for more headache than any other one cause. Reading by poor light, poor print, holding the book too close, etc., are contributory causes easily recognized and, as a rule, easily corrected. Causes connected with ocular defects are another matter.

There is a typical ocular headache, usually frontal in location, associated with the use of the eyes, and relieved by sleep. In school children it is not apt to be present on Saturdays and Sundays, or during vacations. In older people it usually comes on in the late forenoon or afternoon. It is frequently caused by riding in trains or street cars, especially the former, the so-called "panorama headaches." If we accept this as typical of the picture of ocular headache, we must hasten to add that, like all other subjective symptoms, it is subject to great variations. In fact so great is the variety and so wonderful the interpretations, that an imaginative patient can insert into the description of his sufferings, that I think it is hardly worth while to spend much time in trying to get an accurate description of the kind of headache. Every sort of pain in the head may, at times, apparently come from eye strain. This is one of our difficulties. With several possible causes in several of the different organs that we know may send out headache as their cry

of distress, it is hard to hit on the right one the first guess. In many cases, however, an inquiry into other symptoms and questions as to other functions, may put one on the right track, and save time and humiliating errors.

The common forms of optical defect that may underlie defective eye function, and therefore eye strain, are well known. Far sightedness and near sightedness, astigmatism, alone or combined with one of the other errors, give an infinite variety of conditions which we can group together, for though one may be a more common cause of trouble than another, all may cause eye strain and its symptoms.

Not only are we concerned with the errors of refraction, but the question of muscular balance must be considered as well. The eyes at rest are supposed to lie with their visual axes parallel. If for any reason they do not, the necessity of making them so by muscular action of the external ocular muscles is another source of eye strain and its symptoms.

My personal experience is that the vast majority of cases of eye strain are due to errors of refraction, and not to errors of muscle balance. From the point of view of the results obtained and the methods by which they were obtained, I am sure that most of the time relief has followed the use of glasses, and when the glasses did not give the desired relief, no amount of muscle treatment, by exercise, prisms or operation, has given any considerable assistance.

Could published, a few years ago, a very interesting series of books called "Biographie Clinics," in which he reviewed the lives of well known men from the standpoint of their being sufferers from eye strain. He made out a good case in many instances, such men as Dickens, Darwin, Francis Parkman, etc. Since my attention was called to it, I noticed the description of Stonewall Jackson's difficulties, as related in Henderson's "Life." In order to secure relief, he would sit for long periods in a room gazing at the wall, his mind active, but his eyes at rest. Recently in reading Dana's "Two Years Before the Mast," I saw that he gave up his college work and shipped for a long voyage in a sailing vessel



in order to escape the effects of eye strain. While glasses do not relieve all the cases, still such methods as these are not now often necessary.

I hope some of the other contributors to this symposium will answer the questions: What is headache? And why is headache? And how do the eyes cause headache? A rather satisfying answer is that given in a very scholarly paper by Dr. John Dunn of Richmond, in the Archives of Ophthalmology for March, 1918. The paper is too long to more than refer to, but his main conclusion is that headaches are a manifestation of increased intracranial pressure. Eye strain "eventually brings about unstable intra-ocular pressure and then reflexly unstable intracranial pressure, which so readily, when the eyes are called upon for excessive effort, result in headache."

### HEADACHE DUE TO INTRACRANIAL PATHOLOGY.

By B. F. Turner, M. D.,  
Memphis.

*Traumatic.*—Severe contusions administered externally may cause depressed fracture of bone, laceration of the coverings of the brain, hemorrhage, or areas more or less extensive of hemorrhagic encephalitis.

Here the diagnosis should present no difficulty, since the history of the case is concrete. The treatment is surgical.

*Pachymeningitis* is most frequently caused by extension to the dura of infective process of the scalp, or of wounds and fractures of the bones of the head, and of the cavities of the hollow bones. Here again the diagnosis is often clarified by the history of the case. The treatment is surgical.

*Meningitis.*—Inflammation of the coverings of the brain may be caused by any of the infective agents. Its onset is characterized by extremely severe and persistent headache, which will be accompanied by photophobia, stiffness of the neck, restlessness and abnormal acuteness of hearing.

Of the usual therapeutic procedures for the relief of the headache of meningitis,

lumbar puncture is probably the most useful, for, insofar as the headache is due to the pressure of inflammatory products, it may be relieved by the removal of spinal fluid.

*Tumors.*—Headache due to the growth of intracranial neoplasms is of slow development, is extremely persistent, and is accompanied by the other evidences of pressure. We rely here especially upon the choked disk as evidence. Peripheral manifestations, such as the occurrence of localized paralyses, are very conclusive supplementary symptoms.

Neoplasms affecting the cerebellum will cause vomiting, inco-ordination and nystagmus, in addition to the headache and choked disk.

*Abscess.*—Headache may or may not accompany the development of cerebral abscess. An encapsulated abscess may not increase the intracranial pressure, hence headache and choked disk might be absent; while in the development of a diffuse abscess the usual three pressure symptoms, including headache, will be present. The treatment is surgical.

*The Apoplexies.*—The sudden rupture of a blood vessel or the plugging of such in the brain may be the occasion of severe pain in the head. The history of the case, however, and the peripheral symptoms attendant thereon usually render the diagnosis easy enough.

The treatment is symptomatic.

*Thrombi of the Lateral and Other Sinuses,* like other processes in the brain, are characterized by severe pain and are diagnosed by the presence of primary septic foci elsewhere and the violent constitutional disturbances which are common to the septic state. The treatment is surgical.

*Cerebral Anemia and Hyperemia* can hardly be classed as belonging to cerebral pathology. Still they constitute a considerable proportion of the general run of recurrent headaches. Both are due to changes in intracranial pressure due to remote constitutional dyscrasia. The treatment of these is constitutional.

*Editor's Note.*—This paper and that of Dr. Ellett were read before the Memphis and Shelby County Medical Society as part of a symposium on "Headaches." We regret that other papers of the symposium were not received in time for this Journal.

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

FEBRUARY, 1920

## EDITORIALS

### CLINICAL REPORTS.

Good case reports or good clinics are always instructive. The Journal has secured promises from several of the members of the Association that they will send such reports for publication under the head of "Clinical Reports," and it is hoped that we shall be able to make this a permanent and valuable feature of the Journal.

It is not intended that only rare or unusual conditions shall be presented, but rather that these reports shall deal with those conditions with which the ordinary busy doctor is confronted now and again in his every-day practice.

The first of the "Clinical Reports" will be found in this Journal from the clinics of Dr. John M. Maury of Memphis.

### SMALLPOX.

Smallpox continues to be excessively prevalent in many counties in Tennessee. In a way, this is a reflection of an undesirable sort on the medical profession of the state. There are thousands of unvaccinated children in the state who would have been vaccinated before now if the "family doctor" had done his full duty. Of course, there are many who will not listen to the good advice of the "family doctor," nor any other doctor, but in most instances the insistence of the physician who regularly ministers to the needs of the average Tennessee family will be heeded and acted upon. It is undoubtedly the duty of the family physician to see to it that the young children in his care shall have the benefit of protective vaccination against smallpox, for the sake of the indi-

vidual child and for the sake of the common welfare.

### TO COUNCILORS AND COUNTY SECRETARIES.

The time for the eighty-seventh annual meeting of the Tennessee State Medical Association at Chattanooga is not far off. There are yet a number of county societies that have not been reported for 1920.

Councilors should get in touch with the county secretaries in their respective districts and get the necessary information for their annual reports.

County secretaries should make every possible effort to secure the payment of annual dues from all old members and to get in as many new members as can be had. Membership in the State Association will lapse on April 1 unless dues are paid before that time.

Any county society which has not elected delegates and alternate delegates should attend to this matter at the first meeting and the names of those selected should be sent at once to the secretary of the association.

### THE EIGHTY-SEVENTH ANNUAL MEETING.

The eighty-seventh annual meeting of the Tennessee State Medical Association will be held at Chattanooga on April 6, 7 and 8, 1920, under the presidency of Dr. A. F. Richards of Sparta.

This meeting should be one of the most successful from all standpoints, that the association has ever held. In the first place, Chattanooga is a splendid place for a convention of any sort. It is a railroad center, and consequently is easily and quickly reached from any part of the state. Hotel accommodations in normal times, are entirely adequate, and are of such kind as to make it possible for even the most fastidious to be suited. It will be well, however, for our members who are going to Chattanooga to remember that a large part of the population of this terrestrial sphere is now constantly engaged in running up and down over the face of the earth, with or without reason, and

that care should be taken to make hotel reservations at Chattanooga in ample time. In the second place, the medical profession of Chattanooga is made up of an enterprising and exceedingly hospitable kind and the comfort and pleasure of our members will be well seen to. In the third place, when a meeting of the State Association is held in any place in East Tennessee the whole profession of that end of the state takes a real interest in the matter. The East Tennessee Medical Association will not have any spring session, but will be on hand at the state meeting. In the fourth place, we hope to have a very good scientific program. All our members who were in war service have come back home and have had time to get "settled down." And lastly, we just naturally have the talent to make a real first-class state medical organization a fine success, and we are going to show that to be a fact at Chattanooga this year.

An invitation was extended in the December and January numbers of the Journal for all members who wish to participate in the scientific program to send in their titles to the secretary. This invitation is hereby renewed, and it is hoped that any member who wishes to present a paper will communicate with the secretary at once. Those who wish to participate in the program of the Eye, Ear, Throat and Nose Section should communicate with Dr. Louis Levy, secretary of the section, at Memphis.

Full particulars of arrangements for the Chattanooga meeting will appear in the March Journal.

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### COUNCIL PASSED.

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The attention of our readers is called to the "Council Passed" announcement of the Abbott laboratories. We bespeak for this advertiser the support and patronage of our members. This firm is doing splendid research work, and the scientific products which it is developing include medicinal chemicals never before made in this country.

The research laboratories of several universities are co-operating with the Abbott laboratories, to aid them in presenting to the

medical profession original, scientific ideas in medicinal chemistry.

Judging from the growth of the Abbott laboratories, this original, scientific work is being appreciated by the medical profession.

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### PHYSICIAN WANTED.

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State of Tennessee, County of Carroll.

Yuma, Tenn., Feb. 10, 1920.

We, the undersigned citizens of Yuma, Tenn., petition the Medical Board at Nashville, Tenn., for their assistance in securing a physician for this place. We are without a physician and have no probability in sight.

Signed: J. A. Gooch, L. A. Moody, A. J. Rainey, Tom Morgan, J. A. Winter, L. B. Walker, M. M. Stanford, M. L. Winter, J. B. Parish, H. O. Stanfield, Agent; R. L. Belew, W. B. Roberts, B. H. Gooch, E. Hester, A. B. Rainey, T. J. Belew, W. S. Roberts, R. D. Darnal, A. B. Wood, J. E. Lewis, W. L. Balen, R. W. Hopper, H. G. Haywood, L. B. Walker.

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### NOTES AND COMMENT

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Dr. W. W. Vaught, Shouns, President; Drs. T. F. Staley, Bristol; G. E. Campbell, Elizabethton; J. R. Butler, Mountain City, Vice-Presidents, and Dr. W. K. Vance, Secretary-Treasurer, are the 1920 officers of the Sullivan, Carter, Johnson Medical Society.

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At the January meeting of the Washington County Medical Society, the following officers were elected: Dr. J. J. Neass, President; Dr. H. D. Miller, Secretary; Drs. E. E. Long, E. T. West and G. J. Sells, Censors.

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The Washington County Society has increased dues to include the medical defense assessment.

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The Maury County Medical Society held its January meeting at Mt. Pleasant with a large attendance. Drs. W. H. Witt and R. A. Barr, of Nashville, were invited guests, and read papers. The February meeting was held at Columbia; the essayist, Dr. Robert Pillow, Jr.

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The newly elected officers of the Dickson County Medical Society are: Dr. A. G. Castle-



man, Charlotte, President; Dr. W. J. Sugg, Dickson, Secretary. Dr. Sugg was chosen as delegate, and Dr. W. S. Scott as alternate, to the annual meeting of the Tennessee State Medical Association.

Dr. George R. McSwain, Paris, President; Dr. C. D. Lee, Puryear, Vice-President; Dr. Elroy Scruggs, Vice-President, and Dr. J. H. McSwain, Paris, Secretary, are 1920 officers of the Henry County Medical Society. Dues were increased to include medical defense assessments.

Dr. H. T. Brooks, formerly Dean of the College of Medicine of the University of Tennessee is now in practice in Los Angeles, with offices in the Title Insurance Building.

Dr. William Redman, of Crockett Mills, is President, and Dr. J. H. Jones, of Alamo, is Secretary of the Crockett County Medical Society.

Some complaints have been received lately to the effect that some of our members have not received the Journal regularly. Every effort is made to get the Journal to every member each month. All complaints of failure to receive it will be given immediate attention.

The Journal has received a card from Dr. W. B. Russell, of the Changchow General Hospital, Changchow, China. Dr. Russell, a medical missionary of the Southern Methodist Church, is a member of the Madison County Medical Society.

The Campbell County Medical Society met at Jellico on January 7, and elected officers as follows: Dr. L. M. Scott, Jellico, President, and Dr. W. H. Delap, LaFollette, Secretary.

The Haywood County Medical Society, at its January meeting, increased annual dues to include medical defense assessment. Officers for 1920 are Dr. T. C. Chapman, President; Dr. G. T. Scott, Vice-President, and Dr. J. L. Edwards, Secretary-Treasurer. A committee

was appointed to consider the advisability of increasing visiting fees.

Dr. A. B. Qualls, Secretary of the Overton County Medical Society, sent in his annual report in January. All Overton County members pay medical defense.

The Madison County Medical Society includes medical defense in the annual dues.

A neat printed program of the Wilson County Medical Society has come to the Journal. There is an essayist, with an assigned subject for each monthly meeting. Dr. B. S. Rhea is President; Dr. J. R. Doak, Vice-President, and Dr. W. S. Dotson, Secretary.

Don't forget to be ready to go to the Chattanooga meeting—April 6, 7, and 8.

Dr. R. L. Maloney, McMinnville, Secretary of the Warren County Medical Society, has reported eleven members for 1920 enrollment.

Dr. R. L. Motley, Secretary Dyer County Medical Society, has reported a good list of members, all paying medical defense.

The Sevier County Medical Society, Dr. S. W. Flanagan, Secretary, has reported for 1920. This society has bi-monthly meetings.

Armour & Co. will be pleased to send a reprint of Frederic Fengers' article on the "Seasonal Variation of the Iodin Content in the Iodin Gland" to any physician who will ask for it. This paper records work covering more than twelve months, which work was done in the research laboratory in organo-therapeutics of Armour & Co. Address Armour & Co., Chicago.

## MISCELLANEOUS

### NATIONAL ANESTHESIA RESEARCH SOCIETY.

Announcement is made of the launching of the National Anaesthesia Research Society,

with the avowed purpose of collecting data and prosecuting original research in this field of medicine. The objects of the society as set forth in the constitution are:

"To promote the science of anaesthesia and to enable its members, after first having obtained the approval of the society, to submit without prejudice to the dental and medical professions, any views, findings, or accomplishments they have attained; to obtain from all available sources such information as is now extant concerning any material, liquid or gas, known to have anaesthetic properties; to arrange, in co-operation with dental, medical and anaesthesia associations for the preparation and delivery of suitable interesting and educational papers on the general subject, or relative to some particular anaesthetic; to use influence to prevent the publication or circulation of any false or unauthentic statements concerning any and all conditions, symptoms, or phenomena prevailing during or after anaesthesia by any anaesthetic, and to prepare and distribute on request, forms on which such information can be tabulated with uniformity; to distribute by pamphlet or publication, as its funds may permit, and its governing powers authorize, such reliable data as it may collect or obtain through its members or others interested in the subject of anaesthesia, for use by the medical and dental professions; to co-operate with state authorities and other bodies in the preparation of suitable legislation to safeguard those to whom anaesthetics are administered as well as those called upon to administer them; to use its influence in every way and to give its aid toward the advancement of the science of anaesthesia."

The Research Committee, which will have supervision of original work and the editing of material designed for the profession and professional press, is headed by F. H. McMechan, A. M., M. D., of Avon Lake, Ohio, editor of the Quarterly Supplement of the American Year Book of Anaesthesia and Analgesia. W. I. Jones, D. D. S., president of the Inter-State Anaesthetists' Association, will have an active part in the committee's work. Representative anaesthetists of the country, who have distinguished themselves

by research and progress in their field, are being invited to join the committee.

The society has been endowed with limited funds, which will permit it to demonstrate that there is a field of usefulness for it.

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### THE IMPORTANCE OF BLOOD PRESSURE OBSERVATION IN SURGICAL PROGNOSIS.

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(Bulletin No. 1. National Anaesthesia Research Society. January, 1920.)

Edited by F. H. McMechan, A. M., M. D.,  
Avon Lake, Ohio.

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Speaking before the Providence, R. I., Medical Association, Albert H. Miller, president of the American Association of Anesthetists, drew attention to the fact that the blood pressure is the most valuable single means at the disposal of the surgical team for making a pre-operative prognosis and for judging the condition of the patient during and after operation. It may uncover arteriosclerosis, nephritis, myocarditis, aortic insufficiency, or mitral stenosis. It registers the ability to withstand hemorrhage, the depression of the anesthetic and surgical shock. Publishing his conclusions in the Boston Medical and Surgical Journal, 1919, Miller contends that in the present advanced state of surgical knowledge, the patient has a right to expect a fairly exact pre-operative diagnosis and a very exact pre-operative prognosis. The surgeon who makes and records a prognosis before each operation and checks up his pre-operative opinion with the result will rapidly gain in skill in this important department.

Miller classifies his cases into good, fair and poor risks. Good risks—patients free from organic disease, whose surgical condition is not likely to prove fatal—are expected to recover. If a fatality occurs in this class of patients, the case should be carefully gone over to determine if the pre-operative prognosis was in error or the work of the surgical team to blame for the fatality. In fair risks—patients suffering from organic disease, but whose surgical condition is not specially serious, if no examination and no prognosis has been made, the necessity for

a lame explanation of a fatality—for instance fatal diabetic coma after appendectomy—is most deplorable. In poor risks—patients whose surgical condition is so serious or so far advanced as likely to result in fatality, recovery may be unlikely without operation, and the prospect of death should be anticipated by due warning.

In a series of 1,000 consecutive operations, studied under this classification, Miller found the following results:

	Class 1.	Class 2.	Class 3.	Total.
Cases -----	734	179	87	1000
Deaths -----	2	14	29	45
Percentage -----	.27	7.82	33.33	4.5

The deaths recorded occurred in from twenty-four hours to three weeks after operation. No deaths took place during or immediately following operation. Measured measure of anesthesia were used by Miller exclusively.

To determine the accuracy of Moots' rule: That if the pressure ratio (representing the relationship existing between the kinetic energy expended by the cardiac contraction in moving the blood column and the potential energy stored in the arterial walls and columns of blood which they contain), lies between 25 and 75 per cent, the case is probably operable, if outside these limits, probably inoperable. Miller investigated his series of 1,000 cases and tabulated the results. According to Moots' rule 3.23 per cent of the operable cases died and 96.77 per cent recovered. Of the inoperable cases 23.07 per cent died and 76.93 per cent recovered. Some of the cases classed as inoperable underwent minor operations safely, and some of those classed as operable died after very serious operations and under circumstances which could not have been readily predicted. On an average, Miller believes that his results show the great value of Moots' rule in surgical prognosis.

McKesson's rule: That after a half-hour of sustained low blood pressure and rapid pulse, almost every patient succumbs either shortly or within three days of surgical shock and heart exhaustion, was put to a similar test. In a considerable number of cases shock (characterized by a diastolic pressure of 80 mm. or less, a pulse pressure of 20 mm. or

less and a pulse rate of 120 or more), was reported by Miller to his surgeons and the operation rapidly completed. All of these patients recovered. Thirteen of the patients were in the danger zone of 69.23 per cent. These figures certainly indicate the great value of McKesson's rule for determining shock during operation.

Both rules, according to Miller's conclusions, are trustworthy and valuable aids, and should be routinely employed.

#### STANDARDIZING THE CONCEPTION OF CARDIO-VASCULAR DEPRESSION.

Speaking before a joint meeting of the American Association of Obstetricians and Gynecologists and the Interstate Association of Anesthetists, at Cincinnati, Sept. 15, 1919, Dr. Charles W. Moots and Dr. E. I. McKesson, emphasized the fact that cardio-vascular depression being the outstanding symptom of the condition known as shock, it is reasonable to start with the proposition that whatever means enable us to determine the very beginning of this condition is of the greatest importance. These authorities hold that:

"When a cardio-vascular system is reacting normally, an increased pulse rate is accompanied by an increased systolic and diastolic blood pressures, and vice-versa. The pulse pressure is roughly half as great as the diastolic pressure and is the most direct evidence we have of the amplitude of the heart contraction, the best evidence of effective blood movement. In normal sleep, the pulse rate and blood pressures are lowered, but normal relationships are maintained; so are they in an ideal anesthesia.

"But during surgical operations, so many factors enter to disturb the normal reaction of the circulation that we may have many combinations, with almost never a true stimulation, but very frequently a depression of the circulatory system. The changes occur so frequently with sometimes disastrous and sometimes innocent results, that it is most desirable to be able to differentiate between them and to anticipate their onset.

#### BLOOD PRESSURE RULES.

"There is no form of anesthesia, there is



no age of patient, there is no type of operation in which one expects to see an elevation of blood pressures during the operation. Our fears are from low blood pressures, rapid pulse rate and heart fatigue.

"Circulatory depression or decompensation is best divided for surgical operation into three degrees:

"**Safe.**—Ten to 15 per cent increase on pulse rate without change in pressure. Ten to 15 per cent decrease in blood pressures without change in pulse rate.

2. **Dangerous.**—Fifteen to 25 per cent increase in pulse rate with 15 to 25 per cent decrease in blood pressures.

3. "**Fatal.**—Progressively increasing pulse rate above 100 with progressively falling blood pressures of 80 or less systolic and 20 or less pulse pressure, for more than 20 minutes.

"The first degree is never fatal, but may gradually merge into the second degree. The second degree, beginning shock, may be regarded as dangerous in the sense that it exhausts the heart and disarms it for defense against continued low blood pressures.

"The third degree is always dangerous to the life of the patient. A vicious circle is established, consisting of the low blood pressure, the reduced heart nourishment, which in turn still further reduces the blood pressure, and so on progressively. This usually develops within 20 minutes after the third degree depression occurs, and when once well established proves fatal at once or at most within three days. The time in which shock proves fatal depends upon the cardiac muscle reserve and the effectiveness of the treatment employed. Third degree depression may be present in a patient without the usual alarming signs, but after the vicious circle becomes established, evidences of shock become well marked.

#### VALUE OF BLOOD PRESSURE READINGS.

"With the palpating finger, no matter how skilled, one cannot determine all the characteristics of the pulse or the pulse pressures with sufficient accuracy to be of much prognostic value as to the onset and degree of

circulatory depression during a surgical operation.

"Blood pressures and pulse determinations every few minutes during all of the more serious operations as well as in many of the so-called minor cases, are a part of the duties of every anesthetist. The information regarding the patient's fitness for the operation, his reaction to certain procedures and the immediate prognosis can be gained in no other way with the same degree of accuracy.

"The procedure is made convenient and easy by fastening the blood pressure cuff to the right arm and snugly binding the stethoscope below it with elastic webbing. Readings can then be made at will without disturbing sterile sheets and without losing the continuity of anesthesia."

#### PRESERVING MUSCLE TONE.

"A suitable graphic chart is preferable as a record because the tendencies of the circulation are readily compared from time to time and because the prognosis, based upon these tendencies and the character of operative work to follow, can be more accurately made.

"Where nitrous oxid-oxygen was available in skilled hands the war has corroborated our previous observations that this form of narcosis is one of the best shock prophylactics we have.

"It is not remarkable that nitrous oxid-oxygen should be safer in shock and in preventing shock than other anesthetics when one recalls the fact that muscle cannot be paralyzed with it.

"The greatest responsibility of the anesthetist is to avoid relative overdosing of the patient in an effort to please the surgeon, who may be demanding a flabby musculature.

"The relaxation is not confined to striated muscles of the abdomen and extremities, but extends to the striated muscle of the heart. The effect is at once reflected by the pulse pressure, and if pushed too far the diastolic pressure, and if pushed too far the diastolic upon smooth muscle as well.

"The clinical study of blood pressure has convinced us that the final factor in shock is muscular exhaustion, or an interference with muscular action. One thing is most ap-

parent, the average patient having been profoundly anesthetized for extreme relaxation, is half shocked, a second degree depression, and it often takes but little trauma to complete the picture of third degree depression."

In this connection it is interesting to report that all the members of the Toledo Society of Anesthetists have adopted this standardized conception of cardio-vascular depression and are using it graphically on their charts. Their records, when compiled, should develop some valuable and original information.

#### **DANGERS OF INFECTION FROM VARIOUS COMMON ARTICLES CONTAMINATED BY TUBERCLE BACILLI.**

Lawrason Brown, S. A. Patroff and Gilberto Pesquera, of the Trudeau Sanatorium, report the results of inoculation into guinea pigs of various substances and washings of objects that are ordinarily presumed to be contaminated with tubercle bacilli. Dust collected by a vacuum cleaner from the rug of a living room in the sanatorium was negative; swabbings from the mouthpiece of the sanatorium public telephone were negative. Washings of spoons, forks, glasses and cups that had been used at meals by patients and had not been cleansed were positive; those of knives and dishes were negative. Washings of the hands of patients who had coughed upon their hands were positive; those of the hand of a second person who had shaken hands with a tuberculous patient and those of a door knob rubbed by a contaminated hand were negative. Saliva collected from patients just before coughing was positive; patients with positive sputum kissed Petri dishes; washings of the dishes kissed immediately and ten minutes after coughing were positive; those twenty minutes after cough, negative. The wash water of a tooth brush was positive, as were the fly specks of flies fed on tuberculous sputum.

Brown, Lawrason, Petroff, S. A., and Pesquera, Gilberto. *Etiological Studies on Tuberculosis*. American Review of Tuberculosis, December, 1919, Vol. III, No. 10.

#### **FACTS ABOUT CANCER.**

Cancer is unquestionably increasing throughout the world.

At the beginning cancer is usually painless and difficult to detect.

At its first small growth it can be safely and easily removed by a competent surgeon.

Cancer is not a constitutional, or "blood" disease.

Cancer is not contagious.

Cancer is, practically speaking, not hereditary.

Every lump in the breast should be examined by a competent doctor.

Persistent abnormal discharge or bleeding is suspicious.

Sores, cracks, lacerations, lumps, and ulcers which do not heal, and warts, moles, or birthmarks which change in size, color, or appearance, may turn into cancer unless treated and cured.

Probably 60 per cent of cancers of the rectum are first regarded as piles. Insist on a thorough medical examination.

Continued irritation in some form is the usual cause of cancer. It rarely results from a sudden injury.

A doctor who treats a suspicious symptom without making a thorough examination does not know his business.

#### **PLEURAL EFFUSION RESEMBLING LIVER ABSCESS ON X-RAY PLATE.**

Horace John Howk and John A. Herring report the following interesting case from the Metropolitan Life Insurance Company Sanatorium: On April 11, 1919, a patient who had been at the sanatorium (second admission) for eleven months was suddenly seized with a severe pain in the right upper abdominal quadrant with the point of maximum intensity just below the ribs and to the right of the midline. He became severely prostrated with profuse sweating; temperature immediately rose to 103; pulse, 86; respirations, 30; leucocytes, 9600. From the very onset his condition seemed grave. He complained greatly of nausea and vomited at times a yellowish fluid. The severe pain remained

constant; and the temperature between 102 degrees and 103.8 degrees. In a few hours the leucocytes increased to 14,800 and then receded to 12,000 later in the day. The physical signs were those of an infection immediately above or below the diaphragm with an accumulation of fluid. The x-ray plate revealed a picture that exactly resembled that of a subdiaphragmatic abscess. A day or two later dullness increased throughout the right side and the x-ray disclosed the right chest filled with fluid. Clear serous fluid was then obtained by aspiration, and from this point the patient made an uneventful recovery.

Howk, Horace John and Herring, John A.: An Uncommon Case of Pleural Effusion. *American Review of Tuberculosis*, December, 1919, Vol. III, No. 10.

### TUBERCULOUS EMPYEMA.

Duboff, of the Sanatorium of the Jewish 'Consumptives' Relief Society, Edgewater, Colo., has made a study of twenty cases of tuberculous empyema, occurring at the Sanatorium. He gives the pertinent facts of the histories of the cases and discusses symptoms and course, prognosis and treatment. He concludes that tuberculous empyema is a complication of pulmonary tuberculosis, usually the result of a lung rupture; the exudate is pus or sero-pus; the presence of tubercle bacilli in the exudate is the rule; the condition exerts a favorable, though temporary, influence on the lung condition; it may give no symptoms for months or years; its tendency is to eventually drain itself, usually through the chest wall or bronchus or both; and conservative treatment is best—noninterference as long as possible, with aspiration to relieve pressure symptoms and prevent sinus formation, radical treatment to be instituted only when necessary to relieve fulminating symptoms.

Duboff, William S.: Tuberculous Empyema. *American Review of Tuberculosis*, December, 1919, Vol. III, No. 10.

### PUBLIC HEALTH AND LEGISLATION CONFERENCE.

Program of annual conference on Public

Health and Legislation Conference, called by the Council on Health and Public Instruction of the American Medical Association to meet Thursday, March 4, 1920, in the south parlor of the Auditorium Hotel, Michigan Boulevard and Congress Street, Chicago.

#### Morning Session.

1. Call to order, 9:30 a. m.
2. Chairman's address, Dr. Victor C. Vaughn, Chairman, Council on Health and Public Instruction, American Medical Association.
3. Secretary's report, Dr. Frederick R. Green, Secretary, Council on Health and Public Instruction, American Medical Association.
4. "Standardization of Public Health Activities," Dr. George E. Vincent, President, Rockefeller Foundation.
5. "Standardization of State Public Health Organizations," Dr. Chas. V. Chapin, Commissioner of Health, Providence, R. I.
6. "Standardization of Municipal Health Organization," Dr. Allen McLaughlin, Assistant Surgeon-General, United States Public Health Service.
7. General Discussion, opened by Dr. C. St. Clair Drake, Commissioner of Health, Springfield, Ill., and Dr. Ennion Williams, Commissioner of Health, Richmond, Va.

#### Afternoon Program, 2 P. M.

#### Symposium on Health Education of the Public.

1. "Health Education in the Public Schools—Thirty Years' Experience in Michigan," Dr. Victor C. Vaughn, Ann Arbor, Mich.
2. "Health Education and Activities in Colleges and Universities," Dr. John Sundwall, Director, Students' Health Service, University of Minnesota, Minneapolis, Minn.
3. "Health Education a Function of Municipal Health Departments," Dr. Haven Emerson, New York.
4. "Health Education a Function of State Health Departments," Dr. W. S. Rankin, Secretary, State Board of Health, Raleigh, N. C.
5. "Health Education a Function of the Federal Government," Dr. Chas. V. Bolduan, Director, Division of Public Health Education, U. S. Public Health Service.
6. General Discussion, opened by Dr. John M. Dodson, Chicago; Prof. W. B. Wen, Superintendent, Chicago Normal College.

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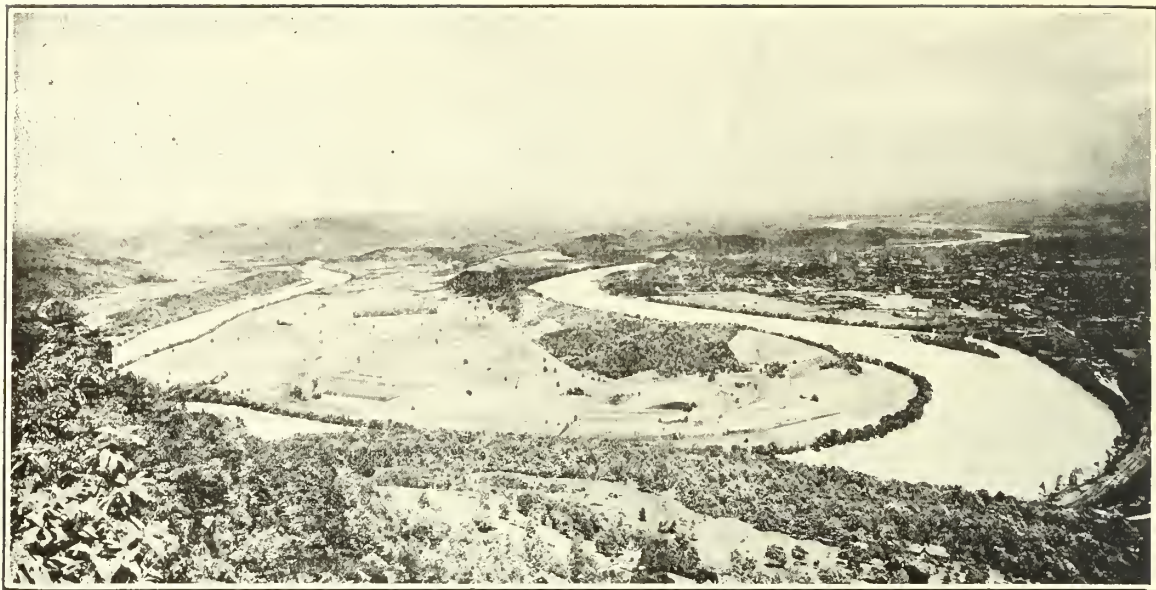
Hamilton County Courthouse, Chattanooga, where convention sessions will be held. Cost about \$500,000. Tennessee Marble.

## CHATTANOOGA.

Of Chattanooga, the historical, Chattanooga the scenic, volumes have been written and printed. And rightly so, because there is perhaps no city on the American continent enjoying such a natural and historical setting as Chattanooga, nestling in the shadow of Lookout Mountain. The "Battle Above the Clouds," which immortalizes Lookout; that grand charge up Missionary Ridge when the blue troops went to the crest and victory without orders from their commanding officer; the bloody field of Chickamauga and Thomas' gallant stand; occupation of the city by both armies at different times; thrilling events that led up to the opening of the "Cracker Line"—all these and more portray that Chattanooga which will live on all the pages of American history because of her part in the war between the states.

Turning from history-making things, the matchless views from Lookout Mountain into seven states; the different, but equally impressive panorama from Signal Point; the expansive sweep, including city, mountains and river from Missionary Ridge—these, also amplified by visual treats limited only by the number of places on which the spectator rests and from which he gazes, bespeak the charm which began before there was any war and which will continue until time shall be no more. So, Chattanooga is rich in those things which make her people proud of being Chattanoogaans, and which attract thousands of tourists and convention visitors annually to marvel at the generosity of nature, to study at first hand the district's military history. But it is not of these things that Chattanooga's real importance, of yesterday, today and tomorrow, is composed. Her foundation is





Chattanooga Valley as seen from Lookout Mountain. Famous Moccasin Bend of Tennessee River.

industry, and her rapidly rising structure of prosperity and greatness must be measured as story upon story of manufacturing and commerce.

From the standpoint of the convention visitor or the tourist, Chattanooga is notable for the numerous and varied things of interest to see, the ease with which they can be done, and the low cost of sightseeing, no matter how it is done. All of the important points of interest—the leading ones being Lookout Mountain, Chickamauga Park, Signal Mountain, Missionary Ridge, National Cemetery, Orchard Knob—are reached by car lines. In the instance of Lookout Mountain, the trip is quickly made by using a combination of trolley cars and the incline. The latter is a thoroughly modern installation, and has a record of never having killed or hurt a passenger. It is about 4,000 feet long, with an average grade of 35 per cent, and the views from the car as it passes up or down are beautiful and imposing. The view from Lookout Mountain that is world-famed, however, is that from the point itself, with the city and valley spread out below in wonderful panorama, including the winding Tennessee River, encompassing some of the land in such form that the term, Moccasin Bend, is nearly as familiar as Lookout Mountain itself. The top of the mountain is interest-

ing not merely for the view therefrom, but for the Point Park, part of the national park reservation at Chattanooga museum, and the \$100,000 New York peace monument. The park and monuments at Cravens Place, on the slope of the mountain form another interest, as do Natural Bridge Park, Rock City, Lula Lake and falls on top, further back from the conspicuous portion of the mountain. A considerable area, accessible to the transportation facilities, is filled with elegant homes.

Signal Mountain is a more recent development, Mr. C. E. James, one of Chattanooga's pioneer promoters, having literally carved out of virgin forest and mountain top a charming residence section just about as high above sea level as Lookout Mountain. A 200-room hotel is the center of a considerable colony of nice bungalows, embellished with outdoor amusements, such as bathing, golf, tennis, etc. The views from Signal Point, named for its historic significance as a signaling station (with flags by day and fires by night) during the Civil War are beautiful, and rival those from Lookout. To the left as one stands on the point are Chattanooga (faintly seen), Lookout Mountain, the Tennessee River, embracing Williams Island, and the convolutions of Signal Mountain itself. To the right is the gorge of the Tennessee River, with mountains on either side,

the river stretching away into the distance like a silver ribbon. The altitude is such that a good-sized boat on the river looks like a toy. The mountain top is reached by electric cars making hourly trips, or by automobile over a splendid road.

Chickamauga Park is the greater part of the national park system at Chattanooga, including about 5,500 acres of the 7,000 acres total. It is made up of a beautifully rolling country interspersed with wooded hills and level tracts and open fields.

The whole area is embellished and made an interesting explanation of the military operations there by monuments, markers with official inscriptions, and observation towers. It is threaded with smooth roads over which visitors speed every day in the year, drinking in the inspiring views and getting some idea of the events which transpired there, consummating in Gen. Thomas' magnificent stand and the stemming of the almost victorious gray tide.

Missionary Ridge is a long eminence running from north to south along the eastern boundary of the city, affording wonderful view in every direction. A trip over it should be included in the itinerary of every visitor. The crest road along its summit connects with Chickamauga Park by automobile, and a car line traverses the most interesting part of the ridge. Monuments, mark-

ers and observation towers make the ridge another feature of the historical education the Government has spread over the district.

The National Cemetery, with its 13,000 heroic dead; Orchard Knob, which was headquarters of General Grant during the storming of Missionary Ridge, and other points, added to the more important ones described above, make up a program of sight-seeing eminently worth while and which must be thoroughly seen before one can claim to have completed seeing America first. Big modern sight-seeing cars specialize on several routes to the points of interest and provide splendid trips at reasonable rates.

The bodily comforts of convention visitors are well taken care of by a group of excellent hotels in the city, and Signal Mountain Inn. The principal downtown hotels are the Hotel Patten, Read House, Park Hotel, Grand Hotel, Northern Hotel, Eastern Hotel, Ellis Hotel, Ford, and others. Most of these are within a few moments walk of the courthouse, where the sessions of the Tennessee State Medical Association will be held, and the others can be reached quickly by street car. Dr. H. P. Larimore has undertaken to make reservations for members if they will write to him concerning what accommodations and at about what price they desire. He is in the Volunteer Building, Chattanooga. In writing Dr. Larimore give approximately what

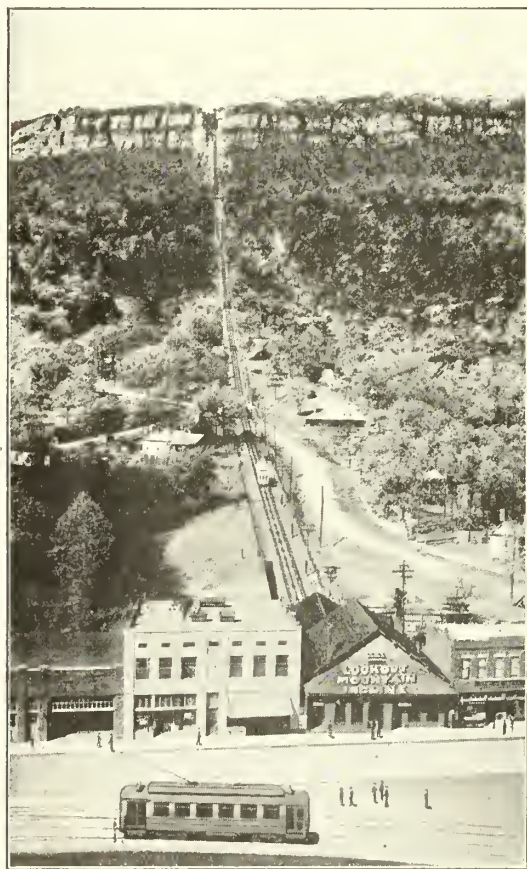


View from Signal Mountain, looking toward Chattanooga. Tennessee River and Williams Island. City and Lookout Mountain in distance. James Point where shelf for carline and boulevard was blasted out with tons of explosive.



price you wish to pay for room, and whether you desire room with or without bath; and whether an arrangement of two, three or four in a room will be satisfactory.

The Hamilton County courthouse is a magnificent, well-appointed structure on a commanding piece of property a short two blocks from the principal retail street in Chattanooga. The building is of Tennessee marble and cost about \$500,000. The grounds embrace an entire city block and are graced with beautiful large trees, flower beds and shrubs. The environment is one of the most attractive in the central section, including several of the leading churches, fine apartment houses, a theater, Elks' Club, a hotel, and the modern, imposing county prison, built a few years ago. The courthouse assembly hall is well lighted and aired; it is on the third floor, well removed from undue noise, and served by two elevators. For their spare time, and aside from the abund-



Incline up Lookout Mountain, Chattanooga, 4,750 feet long. Average grade, 35 per cent. In all the years of its operation, no passenger ever killed or hurt.



One of the many elaborate monuments in Chickamauga Park and other historic ground around Chattanooga.

ant opportunity for sight-seeing, the members of the Association can enjoy amusements characteristic of the spring-summer session in a good-sized city, such as motion pictures, vaudeville and the varied features at Wainer Park (municipal), where there are many outdoor sports and entertainments in full swing during favorable weather.

Some Chattanoogaans like to recommend that people visiting the city for the first time begin their sight-seeing by a trip to the top of Cameron Hill, which is in the city limits, and rises to a height of 975 feet above the sea, or 275 feet above the average elevation of the business district. Cameron Hill is like a platform built in the center of a great arena and affords fine views in every direction, with the mountains and ridges forming the outer rim of the arena. In plain view, almost at





Bragg's Tower, marking spot where he had headquarters during Civil War. Commanding view of city and surroundings. Tower is on Missionary Ridge.

one's feet from this eminence, are the business district, with tall buildings, fine residence sections, the Tennessee River, the twin bridges, the newest of which is the million-dollar steel and concrete lift span bridge at Market street, the west side factory section

and north of the river, industrial district. After this panoramic view, the individual features visited in succession are perhaps more intelligently considered and correlated.

For those who have the time and inclination, a trip to some of the public buildings and leading industries will be interesting and eye-opening as to the importance and diversity of Chattanooga's activities. City hall, federal building, library, hospitals, schools, Y. M. C. A., Y. W. C. A. and the courthouse, already referred to in more detail, are worth a visit. If the visitor has not time to see individual factories, he should be all means take in the exhibit of Chattanooga-made goods at the Manufacturers' Association on Broad street. Here is an imposing array of various large and small products made in Chattanooga, many of them going all over the United States, and some to well-nigh every civilized country on the globe.



Chattanooga Golf and Country Club. The beautiful building, grounds and golf course occupy a fine property along the Tennessee River; a pleasant, brief street car or motor ride from business district.

## HEADACHE: ITS CONSTITUTIONAL CAUSES\*

By Otis S. Warr, M. D.,  
Professor of Clinical Medicine, University of  
Tennessee, College of Medicine.  
Memphis.

It is obvious that in the short time allotted in a symposium of this kind a complete discussion of the constitutional causes of head-

ache would be impossible. We shall, therefore, limit our discussion to those systemic conditions in which headache is the "presenting symptom." Yet, in thus limiting the scope of this paper, we are mindful that occasionally headache is the key to the diagnosis without being the most prominent symptom.

There is no pain to which the human body is heir which is more varied in its causes than headache. No age, race or station in life seems to be exempt. The correct interpretation of all causes of headache presupposes a knowledge of medicine seldom if ever attained. There is no specialty in the field of medicine

\*Read before the Memphis and Shelby County Medical Society February 3, 1920, as a part of a symposium on "Headaches."

which is not at times called upon to reckon with this symptom. Furthermore, there is no doubt that many times we fail to discover the cause of headache for the reason that we see the patient from the narrow point of view of our specialty rather than as a whole. On the other hand, it would be a safe policy always to exclude all local causes, regardless of the general condition of the patient before regarding the headache as constitutional.

When we have excluded intracranial conditions, the eyes, and the nose, with its accessory sinuses, we have eliminated practically all the causes of headache the mechanism of which is understood. The remainder, with perhaps a few exceptions, we classify as toxic, which often is equivalent to saying we don't know. As to the origin of the toxemia we must consider the following possible sources:

**1. Acute Infection.**—It is well known that headache is a prominent symptom in a great many acute infections. In some, such as syphilis and typhoid fever, it is so constant as to be of diagnostic importance. As to the exact nature of the toxins we know but little, though apparently headache is more frequent in those infections in which there is a bacteremia.

**2. Chronic Focal Infection.**—In addition to the infections of the cavities in bones of the head, which Dr. Shea will discuss, there are a few other foci which deserve mention. Foremost among these is the tonsil. In the opinion of the writer there is no doubt that chronic tonsillar infection is a frequent cause of headache. Another focus of almost equal importance is the teeth. Then we have the chronic gall bladder infection as a very common source of headache.

**3. Metabolic Disturbances.**—Under this head we would include those headaches associated with nephritis, diabetes, cirrhosis of the liver, gout, and hyperthyroidism, and perhaps also those associated with menstruation. Whether the headache which so often accompanies menstruation is toxic in origin or due to some vasomotor disturbance is not known.

**4. Gastro-Intestinal Disturbances.**—Of all the systemic causes headache can more often be traced to the digestive tract than any other source. Here the toxic poison may either

exogenous (when taken in as such in the food) or endogenous (when elaborated in the intestinal tract.) Probably the majority of the endogenous poisons are, at least indirectly, the result of chronic intestinal stasis. Here again the exact nature of the toxin is not known, though there is reason to believe that in some cases the headache is in the nature of an anaphylactic reaction due to some protein sensitization. It is a matter of common knowledge that some foods with certain individuals invariably cause headache; just as in others there are certain foods which always cause urticaria. Regarding the absorption of these poisons there is clinical evidence that some at least are absorbed from the stomach. Last summer Mr. L. C., a traveling salesman, was under treatment for pylorospasm, the only discoverable cause of which was chronic constipation. He attended a country picnic and ate a great deal of rich Italian spaghetti. That night he was taken with a severe headache. The hotel physician was called in and he was given a large dose of calomel, followed with a saline. Although this acted well, the headache was worse the next day and a second course of calomel was given. The second day the headache was still unrelieved and further catharsis was given. The third day he came to my office and stated that he had been nauseated since the onset of the headache, but had been unable to vomit. At his request I washed out his stomach and to our surprise recovered a great deal, if not all of the spaghetti which had been eaten three days before. We had scarcely finished the lavage when he remarked that his headache was better than it had been since the onset. Before he left the office he was almost entirely relieved. There can be little doubt that the toxin responsible for the headache was elaborated in and absorbed from the stomach.

**5. Drugs and Poisons.**—There are a number of drugs which at times cause headache. Occasionally this is because of some idiosyncrasy, but most often it is the result of the cumulative action. Some of the more common of these are, alcohol, opium, quinin, lead and the nitrites. Some of the "coal tars" such as are often taken for headache when used over



a long period may produce a methemaglobinemia, which in turn may be a cause of headache. Cabot reports such a case in which the patient had been using headache powders for five years. Tobacco, if indulged in to excess, might be a cause.

**(6) Disorders of the Blood and Circulation.**

—(a) Anemia is frequently mentioned as a cause of headache. It is particularly common in the primary anemias. In Cabot's 697 cases of pernicious anemia, 398 complained of headache. It is difficult to see how the mere reduction of hemoglobin or red blood cells could cause headache. The same conditions producing the anemia might also be responsible for the headache. If the pain were due to the mere lack of hemoglobin it should be as common in the secondary as in the primary forms of anemia. But this is not borne out by clinical experience.

(b) Congestion of the brain from vasomotor disturbances may be a cause. According to Edinger this is the cause of migraine, but he does not tell us what causes the so-called vasomotor disturbance.

(c) Arterial hypertension is sometimes a cause. It is probable that the pressure in the cerebral arteries may be elevated without a rise in the systemic vessels. This again may be a vasomotor phenomenon. Matthew found that when the headache was the result of general arterial hypertension a drop of 30 mm. would invariably give relief. In this form headache is just as likely to follow too great a drop as a rise in pressure.

(d) Headache is a common symptom in arteriosclerosis, but when persistent it usually points to involvement of the cerebral vessels. Moleen claims that it is the most constant symptom of cerebral arteriosclerosis.

**(7) Insolation** is sometimes a cause of headache and in those who have had sunstroke exposure to excessive heat will usually precipitate an attack.

A discussion of headache due to constitutional causes would not be complete without mentioning migraine and indurative headache. These are so common as to deserve the dignity of clinical entities,

**Migraine.**

This is not only the most important, but, according to Edinger, one of the most common types of periodic headache. He believes that two-fifths of all intermittent headaches are of this type. Further than to state that it is probably a toxemia, we know very little as to the cause. There is frequently a definite hereditary predisposition and the condition most often begins in childhood. The attacks are precipitated by a variety of conditions, such as worry, excitement, fatigue, constipation, etc.

**Symptoms.**—The onset is often preceded by prodromes, as drowsiness and lassitude. At times there is an abrupt onset of a severe pain in one side of the head, most often in the temporal region; rarely in both sides at the same time. There is frequently marked nausea and vomiting after a few hours. Noise and light usually make the pain worse. Occasionally certain paralytic symptoms develop, such as hemiplegia, monoplegia, aphasia and hemianopsia. The cranial nerves are most often involved. Rarely the symptoms are confined to one eye. In such cases there may be paralysis of one or more of the motor nerves of the eye.

**Indurative Headache.**

This type, although not generally known, is said to be the most common of all types of chronic headache. It is associated with tender and painful indurations in the aponeuroses of the muscles attached to the occiput. These indurations are inflammatory in nature and for this reason this type is often spoken of as rheumatic headache. Here again the tonsil plays an important role as an etiological factor.

**Symptoms.**—In the beginning the attacks are infrequent and of short duration, later becoming more severe and more constant. The part of the head affected depends on the site of the induration, but it is most often at the base of the occiput. Pressure over these muscles will elicit tenderness in these nodules. There is usually a marked susceptibility to colds, and sitting in a draft or riding in an open car or by an open window in a railroad train will often precipitate an attack. The



attacks of indurative headache are not infrequently associated with mental depression and irritability. Occasionally there is some gastrointestinal disturbance and for this reason the attack is often regarded as a "bilious" headache.

The diagnosis is comparatively easy and depends on finding these tender indurated areas at the insertion of the muscles to the occiput.

**Treatment.**—Since the condition is undoubtedly infectious in origin, the first indication in the treatment consists in the location and removal of the primary focus. As a palliative measure the application of heat, followed by massage to the affected muscles gives great relief. It is in this form of headache that our osteopathic friends can accomplish so much good.

I have intentionally avoided a discussion of headache in its relation to the female generative organs, except as to its association with the menstrual function. There is no doubt that we do have headaches from pelvic disorders, but our knowledge of the subject is too vague to justify a discussion here.

In conclusion, I would urge that every patient with persistent and recurrent headache be given a thorough examination. We should take nothing for granted. In every case the eyes and the nose with its accessory sinuses should be carefully examined. A thorough search should be made for focal infections. An opinion should never be given without a complete urinalysis and a complete blood examination, including a Wassermann. When all other likely causes have been excluded a lumbar puncture should be done and the spinal fluid examined.

Finally, I want to make a plea for a more routine use of the ophthalmoscope. No physical examination is complete without an ophthalmoscopic examination. The medical student should become as familiar with the use of the ophthalmoscope as he is with his stethoscope.

## HEADACHES FROM NASAL ORIGIN\*

By John J. Shea, M. D.,  
Memphis.

Headaches may be caused by nasal involvement either as a symptom of general, focal or local infection.

**General.**—Headache is one of the initial symptoms of all acute infections of the nose and throat, and is characterized by its generality rather than its severity.

**Focal.**—A general headache may be a manifestation of a focal infection of either the teeth or the tonsils, and as such will not be limited to one part of the head and obeys no rule as to its radiation. Neither does it come and go with any regularity. The vagueness of its character and the history of intercurrent tonsillitis or toothache will guide you in detecting the cause. An agreeable surprise is often in store for the operator in these cases, as the tonsil may be removed for a different focal symptom and the headache, which has not been associated with the tonsillar infection, clear up after tonsillectomy.

**Local.**—The largest number of headaches come from sinus diseases, either acute or chronic. There are two functions which a sinus must be able to carry out at all times, or else headache will be produced, i. e., ventilation and drainage. If either of these two functions is interfered with, the symptoms will arise and its severity is dependent upon the degree of disturbance. Taking the simplest thing possible, a blocking of the sinus opening, the blood will take up the oxygen and reduce the atmospheric pressure within the cavity. This leads to the production of a partial vacuum, which will give rise to a drawing pain over the sinus. The duration of the pain is limited to the time the sinus is blocked. If the sinus becomes blocked and drainage is partially or completely interfered with, headache will arise and will vary from a full feeling in the sinus to unbearable pain. The onset of the pain in the partial blocking

\*Read at meeting of Memphis and Shelby County Medical Society as part of symposium on "Headaches."

begins after the patient has been up sufficiently long that some of the discharge has dripped out, leaving a partial vacuum behind. This condition of affairs will keep up the symptoms until sufficient discharge has escaped to allow ventilation to occur. Even though the sinus is discharging freely, if ventilation keeps up, the patient will be comfortable until he retires and the sinus refills, for the same cycle to reoccur the next day.

The sinuses of the head may be classed under four groups: Maxillary, frontal, ethmoidal and sphenoidal. Each has its peculiarities and becomes involved under different conditions. The maxillary suffers the most from the troubles of its neighbors. Abscesses at roots of the upper bicuspid and first molars will rupture into it and set up an infection. Or it may become a reservoir for the discharge from infected ethmoids or frontal sinuses. In a large percentage of skulls there may be found a normal opening from the ethmoid into the maxillary antrum and when these become infected the pus will drop down into the sinus. The anterior ethmoids and frontal go hand in hand, for the infundibulum, which is the drainage canal for the frontals, makes its course down through the ethmoids and shares with them their infection and trouble. The hiatus semilunaris contains the openings for these two group of sinuses, and is protected by the anterior third of the middle turbinates. Hence, any pressure exerted upon the turbinate or any increase in its size from whatsoever cause will block the hiatus and dam back the secretions into these sinuses.

The posterior ethmoid cells and the sphenoid are separated by a thin partition which is easily broken through, and each drains by its own opening, the latter into the naso-pharynx and the former into the post nasal cavity under the middle turbinate.

**Diagnosis.**—The diagnosis is made on the position of the discharge, transillumination and x-ray. Upon inspection of the nares, pus under the middle turbinate at its anterior end will signify anterior ethmoids, frontal or maxillary, while discharge only in the post nasal space or in the naso-pharynx will point towards sphenoidal or post ethmoidal infection. With the transilluminator the two antra may

be illuminated and pus in either one be located. The same comparison may be had of the frontals. The transilluminator works sufficiently well if only one is involved, for it is based on comparison, but if both sides are involved, the question of thickness of the bones of the skull arises to confuse the diagnosis. The x-ray affords the last word in the question of sinus disease and no case has been completely examined which has not been x-rayed. But here I wish to say that the taking of a sinus plate is the most difficult of any head picture and the interpretation of such plates is a specialty in itself.

A special word should be directed to the sphenoidal pain. It is deep set, in the middle of the skull, expansive in nature and constant in attendance, and when present is very difficult of management.

**Treatment.**—The re-establishment of drainage and ventilation with removal of such tissue as has undergone degeneration beyond the hopes of recovery are to be aimed at. If the condition present is only inflammatory, the re-establishment of the two functions will aid nature in healing the infection, but if the lining membrane and the bone have undergone permanent changes, operative measures must be instituted against them.

Septal headache and headache from hypertrophy of turbinates find their origin in pressure. The nerve supply of the turbinate is so extensive and so active that pressure exerted upon them will produce pain, which resists the analgesic effects of opiates and only the relief of the pressure will assure comfort. Inasmuch as the turbinates come into their closest relationship with the septum high up, it is in this region that we find the septal thickening or deflections of greatest trouble. The connection between the innervation of the turbinates and the adjacent nasal septum wall and Meckle's ganglion is very close and nerve block will often be the only means of treating it.

**Ear.**—The pain of an acute ear may be accompanied by a headache, but the headache is so overshadowed by the pain as to not be noticeable. But in chronic inflammatory conditions of the ears, the pain may be slight and the headache will then be a permanent part of the patient's history.

## X-RAY DIAGNOSIS IN SOME BONE PATHOLOGY.\*

By J. Howard King, M. D.,  
Nashville.

It is somewhat difficult to be positive as to diagnosis of all bone lesions from an x-ray examination, but a careful analysis of the case enables one to arrive at a fairly accurate conclusion in the great majority of cases and an absolute conclusion in a large number. In fact, I know of no pre-operative method of examination which so nearly approaches exactness.

In the study of a bone as such, we have to consider, (1) the medullary canal; (2) the cortex; (3) the periosteum, and (4) the epiphyses. In all cases there is either bone production or bone destruction.

One of the chief things the surgeon wants to know is if the case is benign or malignant. There are six main points for consideration by the roentgenologist in the analysis of a bone lesion. They are as follows:

1. Clinical history.
2. Point of origin.
3. Production or destruction.
4. Expansion or non-expansion.
5. Invasion or non-invasion.
6. Condition of the cortex.

The clinical history should always be gained by the roentgenologist, and it is a good plan to get it both from the attending physician or surgeon and from the patient himself. Here important things are: (a) Age, as carcinoma is a disease of advanced life, while osteomyelitis is a disease of youth and early adult life. (b) Sex. Females are susceptible to metastasis from breast or uterus while in males metastasis come from lip, tongue or prostate. (c) Duration of lesion. (d) History of infection or not—as fever, swelling, heat, pain, etc.

**Point of Origin.**—It is very important to be able to decide whether a lesion begun in the medullary cavity, the cortex, periosteum, epiphysis, or joint surface. Tumors are either primary or secondary. Carcinoma is always secondary and of medullary origin; sarcoma

may begin in any portion of the bone, and is often primary. Cysts are always medullary.

**Production or Destruction.**—Production never occurs in carcinoma. It may occur in some sarcomata. There is non-production as a rule in all rapid malignancies. Production begins early and goes along with destruction in osteomyelitis as well as in tuberculosis. It is quite marked in ossifying hematomata and osteomata.

**Expansion or Non-expansion.**—Growths upon the interior of bones tend to produce expansion of the whole surrounding area. Slow growing malignancies and cysts, as well as some cases of osteomyelitis, produce expansion, while rapidly growing malignancies, osteomata and chondromata do not.

**Invasion or Non-invasion** pertains to the surrounding soft structures, as muscles, ligaments, etc.

**Condition of the Cortex.**—Malignancies break directly through the cortex without intervening good bone, while other conditions do not.

It would be unwise to attempt a discussion of all bone lesions here, hence I shall limit this to the commoner and the more important bone lesions, such as periostitis, osteomyelitis, tuberculosis, carcinoma, sarcoma, osteoma, chondroma, cysts and syphilis.

**Osteomyelitis** is due to infection of the medullary cavity by pyogenic organisms. The most common is the staphylococcus pyogenes aureus, but may be streptococcus, pneumococcus, or typhoid bacillus. The streptococcus tends to invade the epiphysis and to involve the joint. This disease is more common in growing bones, 50 per cent of cases occurring from 18 to 30. It may occur at any age. It is three times as common in the male as the female. It is often secondary to furuncle, carbuncle, or an infected wound. It often comes on with chill, high fever, pain, tenderness, heat, swelling, etc. It has distinct leucocytosis. The common bones involved are the tibia, femur, and humerus. As a rule it involves only one bone, but frequently may be multiple.

The point of origin of infection is almost always medullary. In adults it usually attacks the diaphysis, occasionally going to the

\*Read before Middle Tennessee Medical Society meeting, Columbia, Tenn., May 15, 1919.



epiphysis and on to the joint, while in children it often attacks the epiphysis and stops there. It is sometimes quite localized at a given point, making a definite necrotic area called a Brodie's abscess.

In this disease we have destruction early, within a week or two, the medullary cavity showing irregular areas of pus destruction spreading up and down. Production sets in later, in a way following behind destruction, sometimes beginning within four or five weeks. There is early tendency to sequestration. It may perforate the cortex, and when it does, in more places than one there is intervening good bone, which is not true in malignancy. Brodie's abscess is differentiated from cyst by having an area of inflammatory density surrounding it, while cyst has well-defined clean-cut edges.

**Periostitis** is often a mild form of osteomyelitis with superficial abscesses. It does not show in an x-ray plate early, usually not for several weeks. It then shows distinct production just over the outside of the cortex with intermingled areas of absorption.

**Syphilis.**—No other bone disease shows so much irregularity as this. Hence it is much like skin lesions—that is, it may, to some extent, mimic all other diseases. History is of much value, as bone lesions, as a rule, are tertiary—the other manifestations having left their impression. The Wassermann test for the same reason, is not of the greatest value. The point of origin is most always diaphysis, and it may be endosteum, cortex, or periosteum. Production predominates and shows from the beginning with later destruction, but of no great degree as a rule. The typical picture is that of a serrated appearance or production in the diaphysis, with definite lacwork and some punched out appearance at the cortex. We have a chronic endosteal form, which shows a complete density throughout the shaft with more or less regularity and very slight periosteal change. A gumma often appears in the epiphysis and is very hard to tell from tuberculosis, as both may show joint changes or may rupture into the joint. In the metacarpal bones this is especially true. The flat bones when attacked show marked

solition and necrosis. There may be numerous areas in the skull or may be sequestration.

**Tuberculosis.**—As a rule tuberculosis is epiphyseal or synovial. The majority of cases are epiphyseal. The changes in tuberculosis are destruction, followed closely by reproduction; in fact, the destruction is so slow that the production quickly overtakes and goes along with it practically at the same time, yet the production is of no great extent. One of the first things is periarticular soft tissue change, causing a distinct fuzziness to the joint. The epiphysis, when attacked, is destroyed and then comes atrophy, as for instance, in the acetabulum. Slow destruction, periarticular findings, atrophy, and sinuses make the picture of tuberculosis.

In **gonorrheal arthritis** we have periarticular thickening, rapid joint destruction, and later repair with ankylosis.

**Pneumococcus arthritis** always shows rapid destruction with the repair going along at the same time.

**Hypertrophic arthritis** is seen in knees and the spine and has production going on in varying amounts as shown by lippings or building up at the edges. It is progressive as a rule.

**Atrophic arthritis** is rarely seen, and it shows the opposite to hypertrophic arthritis.

**Tumors.**—(1) Benign. (2) Malignant.

The benign are chondromata and osteomata. Chondromata are (a) perichondromata, and (b) enchondromata. They consist of formation of congenital hyaline cartilage. Perichondromata arise from the periosteum by a broad base and cast shadows only slightly more dense than the soft tissues. The main point is that they have irregular calcareous deposits. Enchondromata are always of central origin and consist of a slow-growing homogeneous mass, which destroys normal bone markings. The tendency is to be lobulated on the inner surface and to travel up and down the shaft. They tend to create deformities, always towards the ends of bones.

Osteomata are (a) cancellous, or (b) ivory. They are characterized by growths springing from bones showing normal bone markings continuous with a portion of the shaft from which they arise. They arise most frequently

from the femur or humerus. They tend to form in hook-shaped pyramids or cauliflowers. They have a distinct tendency to heredity, showing a family type. The ivory form is found in flat bones and consists of marked density.

Cysts are close kin to the above. They are always medullary in origin and they occur towards the end of the diaphysis as a rule. They show no production, but some expansion. They show no invasion and do not destroy the cortex as a rule. They have a definite limiting wall with no zone of production around it. The jaw is especially susceptible to several forms.

**Carcinoma**, as stated before, is secondary or metastatic and is purely a destructive process. It is seen oftenest about the pelvic bones, the ribs and the shoulders.

**Sarcoma**.—In periosteal sarcoma we have destruction and reproduction, making radiating lines extending outward into the soft tissues perpendicular to the axis of the shaft. We have this also in syphilis, but these lines interlace or anastomose, while in sarcoma they stand separate like the heads of a field of wheat. Osteosarcoma is medullary in origin and shows destruction and expansion, as well as invasion. The rule in metastasis is that the secondary shows the same cell formation as the primary.

### MALFORMATIONS OF ANUS AND RECTUM.

By D. R. Pickens, M. D.,  
Nashville.

We learn from embryology that the anus and rectum are developed from two distinct layers of the blastoderm, and that the arrestment of either one of these layers is the cause of malformations. Should there be an arrestment in the development of one, there is not necessarily an arrestment in the others. So a malformation in the anus does not mean a malformation of the rectum, but these malformations may be accompanied by deformities in any of the pelvic organs or of the bony structure, dependent upon the embryologic formations. In every 5,000 births

there is one malformation, so these defects are not very common. However, it is very important to know where they do exist and to have some knowledge of their treatment. A doctor should never consider his duty to the newborn complete until he has inserted his little finger into the anal canal. If these conditions are to be treated properly they must be diagnosed early, before we have the symptoms of intestinal obstruction, with its toxemia. I saw one baby eleven days after delivery with imperforate anus. Eleven-day obstructions are not very good operative risks, even in adults. However, this infant made a good recovery following operation.

The common malformations of the anus are:

1. Abnormal narrowing of the canal.
2. Partial occlusion.
3. Complete occlusion.
4. Anal opening at some abnormal point, such as the perineum, scrotum or sacrum.
5. Entire absence of anus.

Common malformations of the rectum are:

1. Rectum opening into some other viscus—as bladder, vagina, urethra, uterus.
2. Normal rectum and anus but some other viscus opening into the rectum.
3. Rectum arrested in its descent.
4. Rectum absent (sometimes including entire colon).

For convenience of description and treatment, two divisions will be made:

1. Those presenting symptoms of partial obstruction.

2. Those causing complete obstruction.

Partial obstruction or those not immediately dangerous to the life of the child, are:

1. Partial occlusion.
2. Abnormal narrowing.
3. Anal opening at some other point.
4. Rectum opening into some other viscus.
5. Normal rectum and anus, but some other viscus opening into the rectum.

Partial membranous occlusion of the anus may occur at different levels of the anal canal, and consists of a membrane or a fold of tissue. If located at the anal margin, it may be composed of skin. When extending from the sacrum to the coccyx, it may represent the central raphe in the form of a nar-

row cord-like extension with an opening on each side over the anal canal, allowing escape of meconium. When the occlusion is higher up, the membrane will be composed of mucocutaneous tissue, of crescentic or circular shape, partially obstructing the canal. The histologic origin of the occlusion is supposed to be due to an imperfect absorption of embryologic tissue. When the occlusion is at the ano-rectal junction, it is caused by non-absorption of the ano-rectal partition during foetal life. These partial occlusions within the anal canal may be seen in adults and be a factor in constipation. Treatment of partial occlusion is the removal of the membranous band with knife or scissors and subsequent dilatation.

Abnormal narrowing of anus may occur at any point in the anal canal or may involve the entire canal. These cases present the appearance of a normal anus and may be overlooked until adult life, unless a digital examination is made. The normal canal should admit the little finger. These babies are known as constricted children and are drugged for their constipation. The canal should be dilated daily with a soft rubber bougie until it will admit the small finger.

**Anal opening at some abnormal point.**—If such an opening is situated near the normal site of anus, the rectum should be dissected, cut, carried down and stitched in its proper position. When the opening is too far removed to carry out this plan of treatment, the abnormal opening should be closed and the rectal pouch dissected out and brought down to normal site. An abnormal opening will usually close if the surface is stimulated with silver nitrate, but if it does not it may be dissected out and the wound sutured. These cases may do fairly well until the child is older, and it is much safer to wait if possible.

**Rectum opening into some other viscus.**—This malformation comprises about 50 per cent of all the rectal malformations, the recto-vaginal being the most common. However, it may communicate with bladder, *atresia ani vesicales*, urethra, *atresia ani urethralis*, and uterus, *atresia ani uterinae*,

When the rectum opens into the bladder, it is more often on the trigone or just above; if the opening is low it runs obliquely through the bladder wall, and allows only a small outlet for the contents of the rectum. The diagnosis in these cases is sometimes very difficult. The appearance of the greenish stain from meconium in the urine is suggestive of the trouble. If the contents drain freely into bladder an infectious cystitis will result, with infection of ureters and kidneys. On the other hand, with a small opening, the child will die with obstruction.

Many recommend immediate operation for correction of the deformity. To my mind this is folly, as one is almost certain to lose the child if such a formidable operation is undertaken, so a colostomy should be done in such a way as to eliminate further escape of contents into the bladder and wait until the child is at least five years of age before any further operation. The same treatment should be followed when the opening is in the urethra and uterus.

When the communication is between vagina and rectum, the commonest of all, it may be overlooked until adult life. However, if the opening is small or the hymen causes the obstruction, it may be dilated sufficiently to allow free movements, and corrected at a later date.

**Normal anus with some other viscus opening into rectum.**—Treatment is same as recto-vaginal communication, except when bladder is absent and ureters empty direct into rectum. Here the child will probably die from ascending infection.

**Malformations producing complete obstruction.**—Complete occlusion of the anus may be caused by fibrous or muco-cutaneous membranes thick enough to cause total occlusion. Where the rectum has properly developed, the meconium can be easily seen pressing against the thin membrane. The question as to whether this malformation results from an arrest in the absorption of the membrane dividing the rectum and anus during its embryologic formation, or during the development of the rectum from the hypoblast and mesoblast, is still one of doubt. In some cases the membrane bridges over the skin, while in



others it is located within the anal canal at or near the pecten, which undoubtedly is due to an arrest in absorption. Simultaneous with the development of the rectum there is an invagination or turning in of the ectoderm (epiblast), or serous layer, which persists until absorbed. The proetoderm of the epiblast and the hypoblast (entoderm or mucous layer) approach each other, forming a double septum between the rectum and anus. The absorption of this membrane completes the anal and alimentary canal. If this double septum should not be absorbed we have a complete occlusion, and the membrane may be protruded and resemble a prolapse. The absence of the discharge of meconium, the bulging membrane, and the inability to introduce the finger into the rectum, will confirm the diagnosis.

**Treatment.**—Complete occlusion by membranous band is best treated by a crucial incision and subsequent dilatation with the finger.

**Entire absence of anus.**—This malformation is comparatively rare. As a rule there is only a slight depression in the skin where the normal anus should be; or there may be a slight elevation of skin or a protrusion at this point. Again, the raphe in the perineum may extend from the scrotum to the coccyx. In some cases there may be a slight discoloration over a partly formed anal ring. These cases may present almost the same symptoms as the undescended rectum, when the rectum reaches near the skin. There may be an undescended rectum, a malformation of hypoblastic origin, or an absence of the anus of epiblastic origin; and both may be at fault in the same case. In those cases where there is simply an absence of the anus, we would expect to find the rectum normal in its descent to the pecten, and surgical procedure would not be so dangerous; whereas the undescended rectum would necessitate one of the severest surgical operations in this region.

**Rectum arrested in its descent.**—In this form of malformation the rectum is either arrested in its development and fails to reach the anal opening, or it may descend in the wrong direction and fail to reach the anal

canal. The rectum may be arrested at a variable distance from the anus, sometimes only within a short distance, again several inches may intervene. There may be obstructions at several points due to adhesions above the undescended rectum. The diagnosis in these cases is usually made a few days after birth by the mother or nurse calling attention to the absence of bowel movements. When a normal anal canal exists a malformation is not suggested by digital examination until the absence of the discharge of meconium is noted and fecal vomiting with abdominal distention occurs. When the rectum is low down impulses can be readily felt with the finger. If higher up or it has descended in front or back of its normal course, such impulse will not be felt. It is impossible to tell with any degree of accuracy the exact location of the rectum, and the only method is by dissection, and unless readily found, should be stopped and colostomy done. The introduction of a trocar or an aspirating needle for diagnosis in these cases is extremely dangerous, as the peritoneum may dip down between the rectum and anus and the needle enter the peritoneal cavity before entering the rectum. Entire absence of rectum may occur and may be mistaken for undescended rectum. A differential diagnosis is impossible without exploratory incision. In these cases the colon may be absent also, and the small intestine open at some abnormal site.

**Treatment.**—Attempt may be made to find the rectum and bring it down to normal position, but unless readily found, colostomy should be done. If the child is extremely toxic when seen, a colostomy should be done at once and attempt to locate the rectum at a later date, as these children do not stand but little surgery.

Another malformation which is occasionally seen is where the urethra, vagina and rectum have a common opening or cloaca. This does not require any immediate treatment, but should be corrected by operative procedure before puberty.

The early recognition of anal and rectal malformations is exceedingly important where the bowel has no outlet, as we are dealing with intestinal obstruction in these cases.

## DENTAL SANITATION.

By F. W. Brownfield, D.D.S., M.D.,  
Granville.

Some years ago, before taking up the study of medicine I often heard the student body of a prominent medical college tell of a certain professor of surgery in that school who was very thorough in his sterilization but who, as he lectured during an operation, was very apt to absent-mindedly smooth out his beard.

Hearing this act ridiculed led me to take stock of the dental standard of asepsis. Also at this time, I made a few trips to a hospital operating room as an assistant and was like the proverbial 'bull in the china shop.' It took the combined efforts of two physicians and four nurses to keep me from unsterilizing myself and the entire force and equipment. Up to this time I was living and working in a state of blissful ignorance, feeling that I was discharging my duty to my patients and the community in an acceptable manner, for I was graduated from the "best" university in the country and was living up to their teaching.

I soon came to the conclusion that there was neither asepsis nor even cleanliness in the average dental office. There are so many factors that are overlooked that I feel safe in saying that no dentist's hands remain free from contamination, most of which comes from the previous patient, throughout any operation.

It will probably be well to point out some of the factors surrounding dental operations. First, the supply house furnishes a cabinet, a thing of beauty and utility, in which equipment and supplies are stored. This cabinet has from ten to twenty compartments, each of which is usually supplied with a glass knob. In addition to this there is in most modern offices a switchboard, one of which is manufactured by the A----- Co., and has twenty-six knobs and push buttons; another, made by the P----- Co., has twenty. To each board there are attached some half-dozen appliances which it is next to impossible to clean

or sterilize. Since fully 95 per cent of all dental operations are performed without assistance at the chair, and it not being the custom of the operator to anticipate his needs, as does the surgeon, for all equipment and supplies needed for the given operation, he opens the various compartments of the cabinet and operates the switchboard as the different steps of his work may require. This he does without washing or sterilizing his hands. Consequently, the various knobs soon become contaminated with saliva, blood and often pus.

Then comes a long list of equipment, such as the chair, "sanitary" bracket table, "sanitary" cotton holder, "sanitary" waste receivers, dental handpieces, water syringes, lamps, chip-blower, telephone, appointment book, laboratory equipment, and ad finems, none of which are ever sterilized, yet are handled continuously. I want to especially call attention to the handpieces, which, because of their being full of shafts, bearings and gears, are never sterilized, yet they are wet with the oral secretions of the patient every time they are used—very often blood and pus included.

We will admit that this is a complicated field in which to work and maintain asepsis, but that fact does not excuse the profession from being held rigidly responsible for negligence and indifference.

In a recent article in the Journal of the American Medical Association, Dr. Arthur Black, of Chicago, states that out of a thousand cases of root canal fillings, 47 per cent show apical disturbance, as determined by the x-ray. There is something radically wrong when almost half of any work fails, and, naturally, one is led to ask how much of this is a result of negligence—a negligence little short of being criminal. We must not lose sight of the fact that several diseases may be disseminated here.

The only logical solution of the matter as our equipment now stands is to employ an assistant whose duty it is to relieve the operator from coming in contact with **anything** except that which is needed for the given operation and is sterile. This brings in an

economic question, but if the general public really knew the facts, they would surely be demanding a change; therefore it is merely a matter of education.

Then there are those who for various reasons must work alone. Much can be done by simplifying the equipment. About half that is in an average office might readily be placed in the attic alongside the old plush chairs, the enlarged pictures and the family album. For instance, take the cabinet: a carpenter can build one in the office at a fraction of the cost and having one 3x6-inch door which, when opened, will expose all equipment and supplies arranged in such a manner that any one thing may be removed by the operator without contaminating the rest of the contents or himself. These things can be done without lowering the standard or the amount of work. I realize that the general public has been taught to judge a man's success, and probably his ability, by the elaboration of equipment. To offset this why not spend some of the money saved upon the waiting room, or upon x-ray equipment, which can be classified among the necessities?

I have visited most of the larger and better dental colleges that this country affords and feel that they are very lax in their training of students. There is no question that next to rectal tissue there is no tissue of the body that has as high immunity as the mouth. This makes the rigid asepsis of abdominal surgery unnecessary for work in the oral cavity, but that does not excuse the profession for the existing conditions. The dental and medical professions have done away with such means of dissemination of disease as the public drinking cups. It seems to be human nature that the other party should reform first. That being the case it is the dentist's time now.

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#### RESOLUTION LOUDON COUNTY MEDICAL SOCIETY.

Inasmuch as the Tennessee State Medical Association has so successfully organized a branch of Medical Defense that has helped us to feel that "in union there is strength," we

believe further that "the tie which binds" can be made stronger by adding an amendment to the present intentions of the defense organization, and thus materially benefit our profession. We therefore submit the following resolution

Be it resolved, that the State Committee on Medical Defense be requested to introduce a resolution at the next meeting of the State Medical Association to amend the rules and by-laws of the organization, so that in case a charge of malpractice be brought against one of our members, the organization employ, not only attorneys to defend such a charge, but in case of a recovery that an amount not exceeding three thousand dollars (\$3,000) be paid by the organization. Such an amount could be created by an initiation fee sufficient to raise this amount, which could be kept as a fund ready to meet such demands promptly as may be presented against the organization, and when any sum should be paid from the treasury an assessment could be made against the members sufficient to cover the amount withdrawn.

Be it further resolved, that a copy of this resolution be recorded on our Secretary's records, and that a copy be mailed to the Committee on Medical Defense for the State Association.

Respectfully submitted.

J. T. LEEPER,  
J. G. EBLEN,  
H. A. P. HARRISON,  
Committee.

February 9, 1920.

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**SURGICAL CLINICS.**

By William D. Haggard, M. D., F. A. C. S.,  
Professor of Surgery and Clinical Surgery,  
Vanderbilt University.  
Nashville.

ST. THOMAS HOSPITAL.  
Clinic, December 12, 1919.

**Gastro-Enterostomy for Duodenal Ulcer.**

Gentlemen: The first case this afternoon is an operation for duodenal ulcer. The patient is a man 29 years of age, who comes for the relief of vomiting of blood and of spells of painful digestion over a period of four years. He has had no noteworthy illness in his life except an operation for stone in the right kidney in 1912. Following this there was a sinus for nearly a year, at the end of which time I removed a hydronephrotic suppurating kidney with a sinus, from which he made a good recovery and has been well since with the exception of hemorrhoids, which were removed elsewhere in 1918. Four years ago he began to have a rather severe, dull, gnawing pain in the epigastrium before meals, which was relieved by food. This pain would reach the maximum intensity about 11 o'clock in the forenoon and 5 in the afternoon. He continued to have this pain for a week. It was not associated with nausea or vomiting or blood. A diagnosis of ulcer was made and he was treated with nitrate of silver and sub-nitrate of bismuth with some relief. He has had about six similar spells, averaging from four days to two weeks, the last one a week ago. They would all be characterized by pain. The pain came on three or four hours after eating and remained until relieved by the next meal: "food case." In each spell he would lose some weight. The last one was about three months ago. He had pain for about two days, was given a test meal and several blood clots were found in the residue. The following morning he vomited about a half gallon of dark clotted blood. He became unconscious and vomited three times more, which was brighter blood, and noticed a considerable amount of black tarry blood in his stools for four or five days following. He had no more

pain but was very weak, so much so that he was confined to bed for about three weeks. Since then he has gradually gained weight and strength until now his weight is normal, but he is still quite weak. There are no other symptoms except occasional slight bleeding from the hemorrhoids.

The x-ray shows a very definite and characteristic duodenal deformity and absence of normal cap. You will see the peculiar narrowed stream of the imperfectly filled duodenum, which is extremely characteristic (Fig. 1). This is borne out by the physical examination, which showed an area of considerable tenderness on pressure, about the size of a half dollar, in the upper right abdomen. His physical examination was otherwise negative except for some enlarged adenomatous glazed tonsils which are adherent to the anterior pillars. He has had spells of tonsillitis for considerable periods, the last being last summer. The urine and blood are normal.

The upper right abdominal incision has been completed and the duodenum appears to be covered with slight adhesions which apparently bind it to the liver. I am separating these with blunt pointed scissors. I now come down to a hard area about the size of a half dime. It is indurated and is now bleeding from the separation of the adhesion. It has all the characteristics of a definite and unmistakable duodenal ulcer. For cure we will perform the operation of posterior (no loop) gastroenterostomy which I have shown you before, description of which you have had in your lectures and illustrations of which I have gone over with you. The technique will be identical with the gastroenterostomies which you have seen heretofore. When the stomach and transverse colon are lifted out, we open through the posterior leaflet of the meso-colon, entering the lesser cavity of the peritoneum and exposing the turned-out, posterior wall of the stomach. I grasp it here at the very lower border and about three and a half inches above and to the right of this point with a forceps. Along this line will be the incision, which will subsequently be joined to the corresponding incision in the jejunum. To the left of the spinal column



Fig. 1.—Absence of Normal Cap and Filling Defect in Duodenal Ulcer.



I reach down and pull up a loop of the first gut I encounter, which usually is the first part of the jejunum, as demonstrated by its peculiar characteristics and appearance and the fact that it can be traced here to the ligament of Treitz. About three and a half inches from this point I grasp it with another forceps and about three and a half inches from that with still another. This will outline the length of the incision. A portion of the stomach and jejunum is grasped in a large stomach clamp so that they can be joined together by three layers of sutures.

After this first row is completed, I will incise both viscera and then unite the cut edges into a circle. This now being practically completed I will take up the first suture that anastomoses the posterior wall and continue it on around the anterior half of the anastomotic circle. This makes an aperture into which I can easily insert three fingers and will make the new aperture through which most of his food will pass rather than all go over the duodenum. Moreover, it will give an opportunity for the bile and pancreatic juice to go through this aperture and thus alkalinize the stomach. You know in our lectures we described as a constant concomitant of duodenal ulcer the excessive acidity of the stomach. It seems that where the acid chyme is squirted out in a jet against the first portion of the duodenum is the point where most of the ulcers occur. Hereafter this food stream will be at least alkalized down to normal. The first opening we made in the transverse meso-colon is now sutured around the stomach as it protrudes through this aperture, making a sort of funnel and protecting against the possibility of the small intestine entering the lesser cavity of the peritoneum, as has been known to occur. The abdominal incision will now be closed and I hope he will have the same satisfactory recovery as we have been accustomed to get in these cases, some of which you have seen here in the clinic. (The post-operative convalescence was uneventful, and there was not a single vomiting after the operation was completed except one shortly after being removed from the table, when he vomited considerable blood,

which was doubtless due to the handling of the duodenum, which had so shortly before been the subject of a very grave hemorrhage. With this exception there was nothing noteworthy, and the patient left the hospital at the end of two weeks and a half and has remained well since.) The induction of the anesthesia and the completion of the operation consumed an hour and eight minutes.

The hemorrhage sometime ago was controlled by morphin, ice bag to the abdomen, and occasional sipping of very hot water. I would say in this connection that I have never seen but one patient die from gastric hemorrhage. The majority of cases survive hemorrhage of the stomach with or without treatment even though they recur. I have seen some cases that vomited so much blood that they became greatly exsanguinated, even fainting upon the slightest effort to raise up in bed. This is frequently the result of such low blood pressure that it is the patient's greatest factor of safety in preventing the hemorrhage from becoming uncontrollable and fatal.

#### **Sequestrotomy for Osteomyelitis Resulting From a Compound Fracture of the Upper End of the Left Humerus.**

While the next patient is taking the anesthetic I will show you the result of an operation for osteomyelitis in this boy which was done day before yesterday. He is 18 years of age and four years and a half ago had his left arm caught in a grist mill and severely lacerated in the shoulder and axilla. It was said to have been out of joint. The physician stated at the time that no bones were broken and under chloroform the dislocation, so-called, was reduced and the arm put in a sling. It required about three months for the laceration to heal in the axilla, but two sinuses on the outer surface of the upper arm opened about that time and have discharged pus ever since and have never entirely healed. He has required to be dressed twice a day now for over four years, and has not been able to use his arm to do much of any work since the accident. There is only slight occasional pain in the shoulder and in the elbow or forearm, but





Fig II.—Arrow-shaped Sequestrum from Osteomyelitis Head of Humerus.

after doing much work with the left arm he has considerable swelling in the elbow. There has been fairly good function in the forearm and the hand and there is no evidence of any paralysis. The shoulder, however, shows little or no motion, and is pretty well ankylosed.

This x-ray shows very beautifully the sequestrum, which is arrow-shaped and which, upon removal under the tourniquet, measured an inch and a half long by half an inch at its base (Fig II). This came from the outer shell of the original bone. Here is also a small sequestrum a half by one-fourth of an inch, which came from the posterior part of the head of the original bone. You will see that it is still packed with iodoform gauze, and an opening of about three inches here, which was left open. We will now pull out this gauze and allow the wound to heal up by granulation. It looks sweet and clean and healthy. There is, of course, a considerable cavity at the head of the bone, which will take many months to heal. Unfortunately at the time of the accident he had a destruction of the epiphysis that will prevent it from ever growing to the same size as the uninjured humerus will. You will notice now by comparison that the left arm is the shorter. Moreover, he has had a pouring out of inflammatory callous in the shoulder joint which has ankylosed it and which will in all probability be more or less permanent. Now that the infection is removed, however, he will probably gain considerable motion and after sufficient time has elapsed one could consider the advisability of doing an arthroplasty if necessary.

#### **Nephrolithotomy for Suppurating Kidney With Stone-Transfusion for Secondary Hemorrhage.**

This patient, 35 years of age, had a stone removed from left kidney about three weeks ago. The kidney contained eight or nine ounces of pus. He had a history of renal colic twelve years ago extending over several days, in which the pain radiated down to the testicle, with vomiting, but morphin was not required. He never had any similar attack, and believed himself well until four months ago,

when he noticed pus in the urine, but without pain. Shortly afterwards there was great burning on urination and frequency amounting to every half an hour. This continued in spite of treatment, rest, etc., and finally obliged him to rise four or five times at night and to void every hour during the day. He lost about fifteen pounds. The x-ray here shows the kidney stone. It was also corroborated by Dr. King and Dr. Witherspoon (Fig. IV).



Fig. V.—Melanotic Sarcoma of the Jaw.

It was a question at the time of the operation as to whether or not the kidney should be removed. At the suggestion of Dr. Witherspoon, I was emboldened to leave the kidney, although the pus looked thick and was somewhat suggestive of tuberculosis. It was negative on culture, too, after the operation, but the sinus has about healed up and he is now well, which indicates that it is not tuberculosis.

The main thing to be learned from his case, however, is the management of shock



in this case by blood transfusion. About four hours after his operation, it was seen that considerable blood had drained and had made an appreciable effect upon the circulation, warmth of the body, and color. The tube which led down into the kidney was injected with several drams of adrenalin, 1 to 1,000, which stopped the oozing from his kidney, but his condition was far from satisfactory. The way to determine the amount of shock accurately is by the blood pressure apparatus. While the man was cold and pale, with a rapid and weak pulse, and the blood had been stopped, still he was in a dangerous condition, because his blood pressure was only 65. After watching him for an hour, after saline infusion, into the rectum, under the skin, morphin, elevation of the foot of the bed and other restoratives, the blood pressure was only 72. We felt, therefore, that it would be unwise to wait any longer upon him, because he would doubtless die from the shock unless he could have a blood transfusion. Fortunately, a convalescent patient was found whose serum did not hemolyze the recipient's cells, and the donor's cells were not hemolyzed by the recipient's serum. As soon as 800 cc. of blood were introduced, the recipient's blood pressure at once went up to 102, and he went right on to a perfect recovery, without any complication whatever.

If the blood pressure had been allowed to remain as low as 70 for another hour, the probabilities are that he would have died, no matter what had then been done. I wish, therefore, to urge the importance of watching traumatic and post-operative shock with the blood pressure instrument. It is accurate and its estimation is not a question of personal equation. Whenever the blood pressure stays below a critical level of 80 for over an hour, the patient is likely to die. If one can raise the blood pressure by infusion of salt solution, warmth, quietude and other measures, well and good; but let me urge if it cannot be done, than transfusion be performed immediately. To this end, we have in and around the hospital a large number of people grouped into the four groups, and as soon as we find out which group the pa-

tient belongs to we can at once summon a donor night or day by telephone, so that his life can be saved if blood transfusion is necessary.

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Clinic, January 2, 1920.

### **Exophthalmic Goiter.**

This young woman (Fig. IV), 23 years of age, single, comes complaining of a lump in the thyroid region, dyspnoea, palpitation and weakness. She first noticed the goiter three years ago, at which time she was in perfect health. The goiter gradually grew larger and shortly afterward she began to complain of shortness of breath. Dyspnoea became marked as time went on. She developed some difficulty in swallowing and last summer it gave her a considerable amount of trouble. She complains of palpitation of the heart and can't exercise very much. She hasn't lost much weight but has become nervous and weak. This is especially noticeable in the knees. I may say that toxic goiter patients complain more of weakness in the knees than in any other part. A simple test is to ask the patient to step up a few steps or up on the stool to mount to the examining table. This patient's general condition is good. She has no nausea nor vomiting nor diarrhea. These are extremely toxic symptoms and it is a great satisfaction to find them absent. Occasionally her feet and ankles swell, but they are not specially significant as her heart is normal and the urine is negative. She has lost some strength, I should say about 2 lbs on a scale of 5. She has a great deal of perspiration, moist hands all the time, and her face is slightly suffused with a red color. Upon her first consultation her pulse was 140, but since having her in the hospital it has remained below 120. This is a very good sign. Most patients otherwise in fair condition, can be operated upon safely, provided the pulse is below 120 most of the time. Her systolic blood pressure is 155, diastolic 85. She had slight elevation of temperature, 100.6, which is not uncommon for these cases. The tremor was quite noticeable. The eyes bulged markedly and showed too much of the sclera, both on looking up and on looking down. She has the fishy eye that



tares and seldom winks, that is so characteristic of the exophthalmic type. Although she has had this nearly three years, it has been relatively mild so far as invalidizing her is concerned. We would regard her as being safely operable, and that the percentage of cures in cases like hers would be nearly 90 per cent. I don't know anything that is more satisfactory than a case of this character. It isn't as virulent as many, and she may be said to have manifested a certain resistance, if there is such a thing with this disease. In all events I feel that we can do the radical operation for her. Whereas if her pulse were 140 at all times, or 150, or she was confined to bed or had nausea or vomiting or diarrhea, showing an excessive amount of toxin, or particularly if she had lost a great amount of weight, then I would advise ligation first of one superior pole of the thyroid gland, probably under local anesthesia, and in five days, if there was no severe reaction, a ligation of the opposite pole. Then at the end of three months we find the majority of these patients will have gained 20-odd pounds in weight on the average and will then stand comfortably a radical operation that would be impossible when they are so sick. It is a good plan not to operate too soon after ligation, unless, of course, the ligation is simply as a test. Sometimes one can see just how the patient will bear a general anaesthetic, ligate one side. The reaction may be almost nil, and then the surgeon may safely proceed at the end of a week, say, with the radical operation, whereas, if the patient bears it very badly one would hesitate perhaps even to do a ligation unless it was under local anesthesia or under nitrous-oxid. We must not expect them to get permanently cured by ligation, however, as collateral circulation will develop and the excessive secretion of the thyroid gland reach the circulation again in increasing quantities. After all, it is the selection of cases and the application of judicious surgery in the individual case that makes success. One had better do too little than too much. The grand-nated operation that I have spoken of is very useful in taking the patients out of a desperate class and putting them into a safe-

ly operable class. This patient has taken the anesthetic well and you will notice the goiter to be of fair size—say 2.5 plus on a scale of 5. There is a noticeable thrill over the right lobe. This is physiologically larger and usually is bigger when both are diseased. We also noticed some bruit before she was anesthetized.



Fig. IV.—Exophthalmic Goiter Three Days after Operation, Showing Kocher's Eye Sign and the Line of Suture.

We make the low incision above the clavicle that will leave a minimum scar and can be well covered by a small string of beads. The flap you see is elevated and the muscles in the midline are separated, and in this instance they can be so well detracted that it is not necessary to cut them across. The lobe can be mobilized, and instead of taking out the entire lobe I will make a resection of both lobes, leaving a thin shell of gland tissue in both sides, taking out really a large slice, comprising the most of the melon. This, you see, is marked out by a cord of forceps

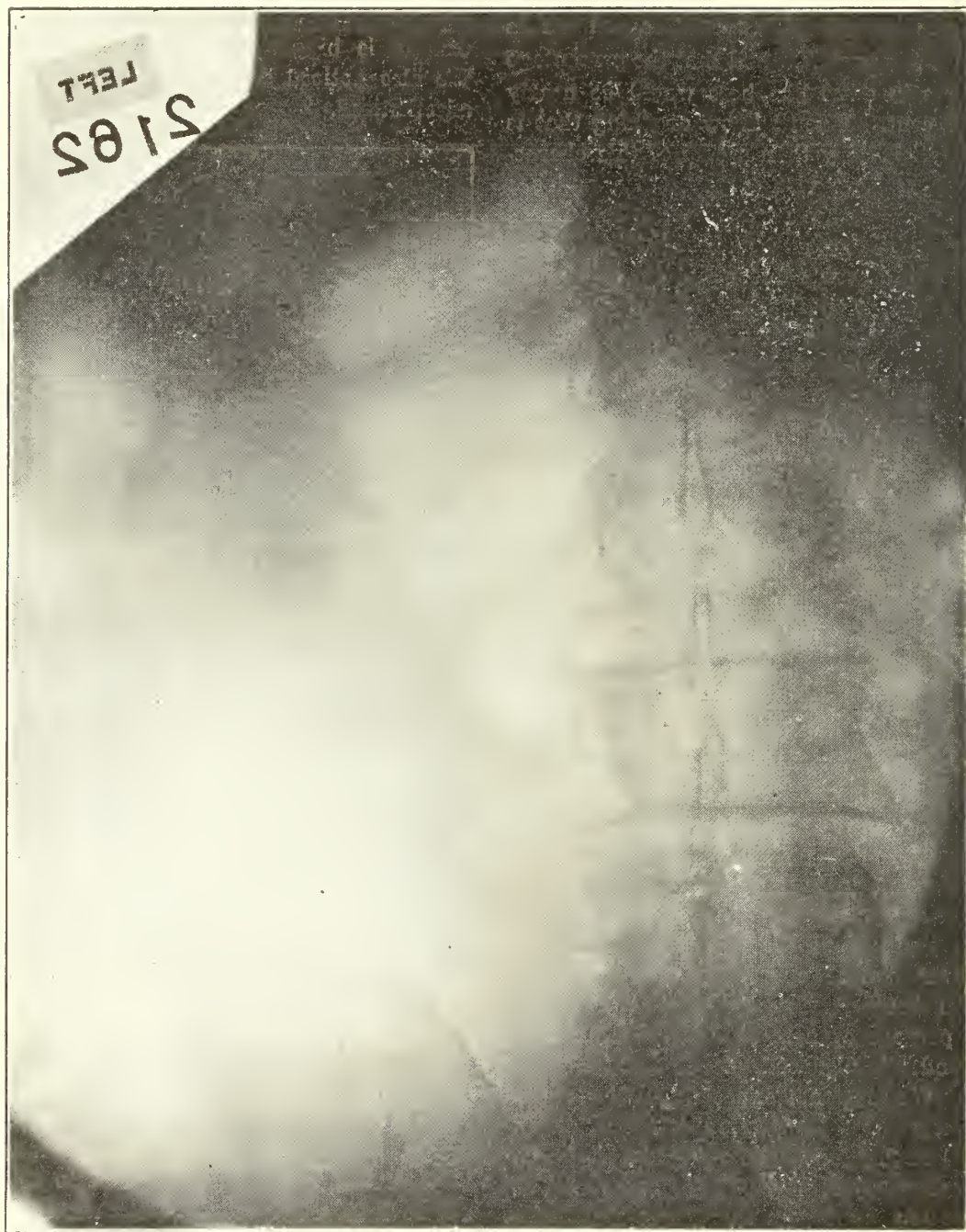


Fig. III—Stone in Left Kidney.



placed around the line of section. This section of gland is taken out almost bloodlessly and the gland is reconstructed by running lock sutures of catgut. The same procedure is now undertaken on the other side, and it only remains to close the muscles in the midline and unite the margins of the incision through which a small drain is led out. She has borne the operation well, her pulse is now below 120, which shows that the anesthetic has been carefully and skillfully given, and that we have not traumatized her unduly. The post operative care is simple, but consists of large quantities of fluid. If she can't swallow well, we will give it by proctoclysis. If that is not well borne, we will give it under the skin. It is extremely essential to give lots of fluid, two or three quarts every twenty-four hours. All patients that can be tided past the first thirty-six hours as a rule get well.

#### **Melanotic Sarcoma of Parotid (Fig. V).**

While the dressings are being applied I would like to have you see the result of this case, which was a melanotic sarcoma of the parotid. This man, 25 years of age, was operated on four days ago by my associates, Drs. Floyd, Crutchfield and Douglass. This tumor started eight years ago as a small lump the size of the end of one's thumb below the angle of the left lower jaw. It grew very slowly, and a year ago was said to be the size of a hen's egg, and very movable. It then began to grow rapidly in size, but gave no symptoms. I saw this man last autumn and urged operation upon him. In fact, he came to the hospital, but became frightened and went away without being operated upon. He had absolutely no symptoms except the presence of the tumor. The rapid growth, of course, made us feel that it was malignant. This proved the great importance of early operation in all tumors. The rule laid down by Mauriee Richardson, namely, "That all tumors, wherever situated, should be removed when feasible as early as possibly," still holds good. It is obvious that this tumor was not malignant all these eight years—in fact, when it was movable and the size of a hen's egg a year ago it would have been easily extirpated, but now after the

rapid growth it assumed the peculiar and unfortunate type of sarcoma that is so difficult to cure. The operation was most extensive, requiring nearly two hours, and with this large incision which you see going from the mastoid portion of the temporal bone to the clavicle. The tumor, of course, was intimately adherent to the large vessels and nerves, but as you see the facial nerve was not destroyed, which I think is very gratifying indeed. He can smile and frown, and there is no paralysis. The spinal accessory was also preserved, but the superficial cervicals were unavoidably destroyed.

We are now going to employ radium in this case in order to prevent recurrence. We will give him a large doses as soon as the flap regains its blood supply and will not be destroyed by the radium. It will require repeated applications and constant observation. Lympho-sarcoma is the best form of malignant disease to yield to radium. The melanotic form of course is not so satisfactory, and still I think by perseverance, early application, we may be able to control this disease with large doses.

In this connection I may say that we feel that radium is a great adjunct to surgery in handling malignant disease, not only on the inoperable cases, where it is far the best thing we have to offer these otherwise hopeless individuals, but also in the operative cases. I showed you in the ward the other day the case of a young woman with a sarcoma of the femur, making a tumor in the saphenous region as large as a grapefruit, which contained a quantity of blood, and its wall was almost bony. After extirpating it in its entirety and clearing out the femur, we put the radium right in the bone. We hope in this way that we will prevent the recurrence, although we will give her x-ray over the gland in the groin and over the tumor also. In fact, if we can use the radium on malignant disease right then and there it is so much better and, indeed, in some cases it is wise, I think, to leave the wound open and use x-ray right into the tissues or bury radium as you saw me do recently in a malignant prostate, where all of the growth could not be removed.



**Intestinal Obstruction from Napkin-Ring Carcinoma of the Sigmoid.**

This man is 63 years of age and came to the hospital four days ago with intestinal obstruction that apparently was complete. He had been suffering with abdominal pains, a tumor in his left side and obstipation for three days. He was not vomiting, however, and his pulse was normal. Inasmuch as he had only had two drams of salts and three aloin and belladonna pills, I thought the obstruction was not complete, I hazarded a dose of castor oil. Ordinarily one does not and should not employ purgatives under these circumstances. I felt, however, that the obstruction was chronic and due to a malignant new growth, and that if I could get him rid of the obstruction above temporarily that we could perform satisfactorily the operation which I now propose to perform. Accordingly, we gave the oil and it proved very efficacious. We then set about proving the diagnosis. The history is as follows: Seven or eight months ago the patient began to have diarrhea, five or six stools a day, of a thin mucous character. There was no blood at first except from some hemorrhoids which he has had for six or eight years. At the beginning of the diarrhea there was pain in the epigastrium going down to the left iliac region. He lost appetite, weight and strength. Quite recently he had a severe attack of colic in the left iliac region, accompanied by nausea, vomiting and a chill which kept him in bed one day. Then, following purgation he passed some dark blood, and has continued to do that almost daily since. Some days ago, while sitting, without any warning he fell out of his chair in a faint. After being revived he became nauseated and vomited. For several months he has noticed a mass in the left iliac region low down, which appears and disappears at intervals. It seems that when he is most constipated, the mass appears. He has not had a real good bowel action for nearly a year, although he has not taken much purgatives, but when he did they have not been very effective. He has only lost, however, about ten pounds in weight.

Blood in the stools of an elderly man is

a very serious matter. It should not be disregarded, and a careful examination should be instituted. The first thing is to prove or disprove that he has hemorrhoids. The simplest and most effective way is to give the patient an enema and let him strain down and cause the piles to come out. After the enema is passed, one can usually see the exact size and character of the hemorrhoid and whether or not they are bleeding. One cannot do that satisfactorily any other way. In this man's case we saw the hemorrhage did not come from the piles. A rectal examination failed to show anything except a ballooned rectum. There was no mass that could be reached or felt. A proctoscopic examination did not reach or show any mass. The examination of the feces showed no amoebae. The x-ray did not disclose much because the enema of bismuth did not go through the obstruction and the bismuth meal given from above did not come through. If he had not had complete obstruction, however, a bismuth enema would have showed the narrow point in his intestine any time within the last year since he had been having this bloody diarrhea.

These cases are very much more common than one would suppose. This makes the fourth case of cancer of the large intestine exclusive of the rectum we have operated on in the hospital here in the last month. I have also reported, with Dr. Floyd, five cases of complete intestinal obstruction that were brought to the hospital for that symptom alone, which were all due to carcinoma either of the rectum or the sigmoid which had not been previously diagnosed.

We are giving this patient nitrons-oxid, which is a beautiful anesthetic for the severe case. An incision in the left rectus muscle low down discloses a napkin-ring carcinoma, about the size of a crab-apple, that I can just pull up on to the abdominal incision. It is situated about the recto-sigmoid junction. You will notice that the intestine above the tumor is very large and hypertrophied and bigger than one's wrist. It is very freely brought out of the cavity. If the tumor were only two inches higher it would be so much easier. As it is I am going to pull the whole tumor out on to the abdom-

inal wall and make a colostomy. I can do that by separating the outer leaflet of the peritoneum and also by loosening the peritoneal reflection of the inner leaflet. I will close the peritoneum around this large loop of intestine and place a glass rod underneath it and close the wound. This is the first stage of a Mikuliez. In two or three days I will open the colon and let him have a free colostomy opening. At the end of two weeks I will take off this entire loop, including the tumor, with an actual cautery without an anaesthetic as we did in the patient I showed you two weeks ago today. I have previously satisfied myself that there is no metastasis in the liver and I find no gland nearby. This is a favorable case. After some weeks go by and the two loops of intestine, which I have sewn together so that nothing can get in between them, lie side by side, I will put the prong of a large clamp into the upper and lower segments respectively and crush them through, requiring several days, which will restore the lumen in the continuity of the canal, and then I can close the skin and muscles over very simply. This is the safest and surest way to cure a cancer of the sigmoid. At the next clinic I will show you an elderly Jewess who had this operation three years ago, who is in perfect health.

(The sigmoid was opened on the third day, and a complete evacuation occurred. The tumor was so low that the lower segment was put on considerable tension, too much, it proved, to get it on the outside. Peritonitis occurred from infection getting out through the walls of this damaged gut, and death resulted on the fifth day.)

#### **Specimen of Carcinoma of Hepatic Flexure of Colon.**

I will pass around this fresh specimen of cancer of the hepatic flexure of the colon, which was removed yesterday, and which I have kept on ice since (Fig. VI). (It has been preserved in Kiserling and photographed.)

The patient was 63 years of age and had complained of occasional abdominal colic for twenty-six years, which we had diagnosed as gall stones. He had gall stones all right, but in the examination I felt the mass in the he-

patie flexure about the size of a child's fist, which I readily drew out of the incision and found to be one of these typical constricting annular carcinomata. There were no special glands nearby and there was no metastasis in the liver. I ignored his gall stone and resected about nine inches of the ascending and transverse colon, including, of course, the hepatic flexure, and united the cut ends by suture, the last tier of which were interrupted silk and the long ends were drawn up and brought out of the abdominal incision



Fig. VI.—Carcinoma Hepatic Flexure of Colon.

and tied and the skin closed around them, a little gauze leading down to the colon. If any trouble should arise with gas or difficulty with the passage of gas I could easily run some blunt-pointed scissors along the side of these sutures and clip an opening into the intestine that would give him temporary discharge of gas and feces and prevent serious trouble. Adhesions will occur and be firm in two or three days.

Curiously enough there were no symptoms

that would lead one to suppose that this man had a cancer. I now recall that he did not look as well as he should have from occasional mild attacks of gall stone colic two or three times a year, but there has never been any blood in his stools and the tumor was not palpable. I did notice a resistance slightly in excess on the right side over the left, but attributed that to some slight spasm resulting from a recent attack of gall stone and did not dream of a tumor being present there. The operation was very satisfactory and he is doing nicely today. (The subsequent progress of the case was uneventful; there was no pain or vomiting, his bowels moved spontaneously on the sixth day. A slight fecal fluid escaped for several days.)

#### **Preparatory Treatment for Prostatectomy.**

This gentleman, 69 years of age, has just recovered from a prostatectomy two weeks ago and has made a perfect recovery. I attribute it not so much to the success of the operation as to the careful preliminary preparation. When he came here he had complete retention of urine and had to be catheterized for five days. He had been having frequency of miction and difficulty for five years. We introduced a large rubber catheter and strapped it in, allowing him to get up and walk about with a receptacle. The urine of course contained much pus and blood. The quantity was scant and the output of the dye injected into his veins was very low, about 30 per cent. in two hours. On the other hand, his blood urea was very high, measuring about 80 mg. per hundred cc. of blood, whereas it should be about 20 mg. Both showed retention of urea and urinary products. Under these circumstances operation is distinctly dangerous. By draining the bladder and relieving the long continued back pressure on the kidneys, they can regain their activity and eliminate better. Phosphate of soda was administered and large quantities of fluid. The bladder was irrigated twice a day with boric acid, alternating with formalin solution. The urine finally cleared up and his pheno-sulphonethalin test showed 60 per cent in two hours and the urea in the blood came down to 22

mg. per hundred cc. It required two weeks and a half before he could be gotten in this satisfactory condition for operation. Accordingly, under gas anaesthesia the prostate was very satisfactorily removed and he has made a perfectly beautiful recovery.

The point to which I wish to direct your especial attention is the very thorough and careful preparation. The unsatisfactory results in removal of the prostate in elderly men in the past have been not so much due to poor surgery as to poor preparation. These old men are notoriously bad subjects, especially in their urinary secretions. They commonly died from uremic symptoms. If this one had been unable to bear an indwelling catheter I would have made a suprapubic cystotomy and allowed him to drain for as many weeks or months as necessary to get his urinary secretions in a normal state and the amount of urea left in his blood down to normal. If under these circumstances his general condition is satisfactory, the operation ought to be fully safe. I cannot stress this point too strongly and urge the long continued preparation and careful watching of these cases before submitting them to so serious an operation as prostatectomy when they are such bad risks. Of course if the man cannot be brought into a good state, then he should not be operated upon unless he understands the dangers which cannot be overcome. I have known these cases to wear a suprapubic tube for five or six months before being gotten in good condition for operation. They can even go home and stay there until such time as their condition is safe. In this way, the results ought to be infinitely better than they have ever been before. The testing of the blood urea, while a time-consuming proposition, is not particularly difficult, and for patients who are not necessarily confined to the hospital we make these tests from time to time at the laboratory in the office until it is demonstrated that the blood urea is in a normal condition. With this careful preparation, my associate, Dr. Douglass, who has recently completed his course in the Mayo Clinic, informs me that there they have done an exceedingly large number of prostatectomies, with only one death. This seems al-



most like a sleight-of-hand performance, but the difficulty, as before pointed out, has not been so much with the surgery, but with the preparation being inadequate, and operation undertaken in these bad risks before they are brought into a perfectly safe condition.

### CLINICAL REPORTS OF THREE CASES.\*

By Larkin Smith, M. D.,  
Nashville.

**Case 1.**—T. L., male; age, 34; married; occupation, shipping clerk. Has suffered from attacks of tachycardia for past fifteen years, increasing in frequency until lately he has had three per week. The duration of the individual attacks does not exceed three minutes. During attacks he is very pale, sweats profusely, and is extremely apprehensive. They are nearly always brought on by acute digestive disturbance, though a few have been initiated by fright. He obtains relief by eructation. In the majority of attacks he clearly notices that the onset is strikingly abrupt. Physical examination revealed no signs. Between attacks there is no limitation in the field of cardiac response.

**Case 2.**—S. O. K.; male; age, 30; married; occupation, electrical engineer. During the past eighteen months he has had five or six attacks of extremely rapid action of his heart. The duration of the first one was about fifteen seconds. The remainder gradually increased in length until the last one was of fifteen minutes. Also he showed symptoms of chronic gastritis. All attacks were brought on by bending the body down in the act of picking up some object from the ground. All attacks began and ended with marked abruptness. The recumbent position, while not affecting the pulse rate, seemed to favor an earlier ending of the attack. Physical examination showed no abnormal signs. Between attacks there was no limitation in the field of cardiac response.

**Case 3.**—W. B.; male; age, 59; married; occupation, postal clerk. First had an at-

tack of intense tachycardia in 1895, a second one about 1900, then one about every six months, increasing in frequency, until now they occur about every three weeks. The duration of the first attacks was about two hours, while the recent ones extend over four or five hours. They begin with the subjective sensation as if the heart had stopped beating, which is immediately followed by very rapid action. They end as suddenly as they begin, and with a strong beat or two at the end. The recumbent posture has no influence on the heart rate. He has never found any remedy or measure that will stop an attack. He expressed it, "it only stops itself." Physical examination showed the apex beat in the sixth interspace, in the nipple line; the left border of the heart conforming to the position of the apex beat. The heart sounds were weak. There were no murmurs. Premature beats were frequent.

Between attacks there is no limitation of the area of cardiac response.

In many instances it is difficult to say that a case is one of paroxysmal tachycardia or a simple acceleration of rate, especially as the immediate exciting causes are often the same for the two conditions.

For a diagnosis of paroxysmal tachycardia we principally rely upon the very abrupt beginning or ending of the new rhythm (in simple acceleration of rate it usually requires one or maybe two minutes to reach the maximum) and the fact that the recumbent position and exercise exert but slight influence upon the rate. The occurrence of premature beats may be looked upon as added evidence.

### CELEBRATES THIRTIETH ANNIVERSARY.

The thirtieth anniversary of the founding of the Abbott Laboratories is being celebrated this month. This firm has recently established the precedent in the pharmaceutical field of placing their employees on a profit-sharing basis.

It is a notable fact and one worthy of commendation that more new medicinal chemicals and council-passed products have come from the house of Abbot during the past five years than from any other firm in this country.

\*Reported before the Nashville Academy of Medicine and Davidson County Medical Society, March 2, 1920.

# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

MARCH, 1920

## EDITORIALS

### THE EIGHTY-SEVENTH ANNUAL MEETING.

In the city of Chattanooga, on Tuesday, April 6, 1920, at 10 a. m., the eighty-seventh annual meeting of the Tennessee State Medical Association will be called to order in the hall of the Hamilton County Court House. Dr. A. F. Richards, of Sparta, President of the Association, will be in the chair and will direct the program. Dr. Richards is known as a man who does things and who gets things done, and we may expect that there will be no dragging nor any tiresome and unnecessary waste of time.

The Committee on Arrangements of the Chattanooga Academy of Medicine and Hamilton County Medical Society is composed of Drs. J. C. Brooks, Chairman; J. B. Haskins, H. L. Fancher, G. Victor Williams and Raymond Wallace.

The Section on Ophthalmology and Otolaryngology, of which Dr. W. W. Potter, of Knoxville, is Chairman; Dr. Robt. Fagin, of Memphis, Vice-Chairman, and Dr. Louis Levy, Memphis, Secretary, will meet at 2 p. m. on Tuesday, April 6.

The House of Delegates will have meetings each day at 8:30 a. m. and 2 p. m.

All county societies that have not selected delegates and alternates should attend to the matter at once, and the names of those elected should be mailed to the Secretary at Nashville.

Chattanooga is widely and most favorably known as a convention city. It is easily reached from all directions, and the finest trains in the South pass through its terminals. The hotels are good and can accommodate large crowds. The doctors of Chattanooga are a congenial lot, who know how to take care of

a big medical meeting, and who, knowing how, always make a fine job of it.

We hope to have a good scientific program. The East Tennessee Medical Association has called off its spring meeting, and its members will all be at Chattanooga.

Those who live in West Tennessee can go to Memphis and "catch" the "Memphis special" of the Southern Railroad, a splendid train leaving Memphis early in the evening, and reaching Chattanooga early the next morning, or can go to Nashville, from which city there are four trains to Chattanooga between the hours of 8:30 a. m. and 9:30 p. m.

If you have not already done so, make your Pullman and hotel reservations NOW, and swell the crowd at Chattanooga, April 6, 7, 8.

### ARRANGEMENTS FOR CHATTANOOGA MEETING.

The Committee on Arrangements of the Chattanooga Academy of Medicine and the Hamilton County Medical Society has secured spacious quarters in the beautiful Hamilton County Courthouse for all meetings of the Tennessee State Medical Association on April 6, 7 and 8. The main Auditorium will be used for the general sessions, the county court room for the purposes of the House of Delegates, and the section on Ophthalmology and Otolaryngology will utilize the Circuit Court rooms for its meeting. The registration desk and commercial exhibits will be placed in the large circular corridor. Under this arrangement all meetings will be held on one floor.

The Hamilton County Court House is a magnificent building, centrally located and far enough away from the busy street to prevent the noise of traffic from interfering with the discussions of the meetings.

The Hamilton County medical profession will entertain the members of the association at a banquet at the Golf and Country Club at 8: p. m. on Wednesday evening, April 7.

The Committee on Arrangements is composed of Dr. J. C. Brooks, Chairman, and Doctors J. B. Haskins, H. L. Fancher, G. Victor Williams and Raymond Wallace.

Doctor H. P. Larimore, the best county medical secretary in all the wide world, has

agreed to secure reservations for those who expect to attend the Chattanooga meeting. Those asking Doctor Larimore's aid in this matter should advise him as to the kind of accommodation desired, and should communicate with him as soon as possible. Chattanooga is splendidly equipped with hotels, but we are expecting a large attendance and it is to be remembered that the tremendous amount of travel is taxing all hotels to their utmost capacity.

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### THE SECTION DINNER.

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The members of the Section on Ophthalmology and Otolaryngology will be entertained at dinner by the Chattanooga Ophthalmological and Otolaryngological Society on Tuesday evening, April 6, at 6 o'clock. The President of this Society, lately organized at Chattanooga, is Dr. B. F. Travis, and the Secretary, Dr. E. W. Patton.

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### THE A. M. A. AT NEW ORLEANS.

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The seventy-first annual session of the American Medical Association will be held in New Orleans from Monday, April 26, to Friday, April 30, 1920.

Tennessee is always well represented at the A. M. A. meetings, and an unusually large number of physicians will go to this year's meeting from our state because the meeting will be held in a Southern city. We would call the attention of our readers to the importance of making hotel reservations in New Orleans NOW. When some six thousand doctors and doctors' wives and sons and daughters descend upon New Orleans, a city which is always full of visitors, some are likely indeed not to find accommodations unless reservations have been made.

The annual meetings of the A. M. A. are always worth while. The meeting this year in old New Orleans will be more delightful than most have been, because April in that city is always fine, and the doctors of this wide country will be there.

### TO ALL PHYSICIANS WHO SERVED THE FEDERAL GOVERNMENT DURING THE WAR.

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An association of Medical Veterans of the World War was organized at Atlantic City, in June, 1919, at the time of the meeting of the American Medical Association, and a constitution and by-laws adopted. About 2,800 physicians have already joined and all others who are eligible are invited to join the society.

The Constitution states that, "The dominant purpose of this association shall be patriotic service. The objects of this association shall be: To prepare and preserve historical data concerning the medical history of the war; to cement the bonds of friendship formed in the service; to perpetuate the memory of our medical comrades who made the supreme sacrifice in this war; to provide opportunity for social intercourse and mutual improvement among its members; to do all in our power to make effective in civil life the medical lessons of the war, both for the betterment of the public health and in order that preparedness of the medical profession for possible war may be assured."

The organization of the society provides for state and local organizations wherever the members desire it, and in some states, such as Wisconsin, organization has already been effected.

It is desired by the National Association that those who are already members meet together in larger and smaller groups, at the first convention opportunity and effect a local organization with a chairman and secretary, and also at the next meeting of the state medical society that a place be provided on the program for the Medical Veterans.

The organization of the society is based on democratic principles and it is hoped that the members who have already joined will take the initiative and organize their own state and local societies.

The national organization will assist by furnishing application blanks and copies of the Constitution and By-Laws, and if desired, stationery.

The first things to be done after the organ-



ization of a state society is effected is to elect a councillor to the general council of the organization, to represent the state society at the next annual meeting of the Veterans at New Orleans on the first day of the meeting of the American Medical Association, April 26, 1920.

A badge or button for members of the society is being made and will soon be ready for distribution. Address Secretary, Medical Veterans of World War, Washington.

SECRETARY.

### PRELIMINARY PROGRAM.

The following "preliminary" program for the eighty-seventh annual meeting of the Tennessee State Medical Association at Chattanooga on April 6, 7 and 8, is here presented simply that the members of the Association may know what progress has been made toward completing the scientific program and that they may know of the arrangements made by the Committee on Arrangements of the Chattanooga Academy of Medicine.

The meeting of the Association on Tuesday, April 6, will be called to order at 10 a. m. by the Chairman of the Committee on Arrangements. After such preliminaries as may be arranged, the President, Dr. A. F. Richards, will present his address and the scientific program will then be continued until completed.

The House of Delegates will meet at 2 p. m. on the first day and will have sessions at 8 a. m. and 2 p. m. on Wednesday and at 8 a. m. on Thursday.

The Section on Ophthalmology and Otolaryngology will meet at 2 p. m. on Tuesday, April 6, and other subsequent meetings will be announced.

### PRELIMINARY SCIENTIFIC PROGRAM.

Presidential address by A. F. Richards, M. D., Sparta, President of the Tennessee State Medical Association.

"Traumatic Musculo-Spinal Paralysis," by Jere L. Crook, M. D., Jackson. To open discussion: R. W. Billington, M. D., Nashville.

"Tubercular Peritonitis," by John B. Haskins, M. D., Chattanooga. To open discussion: Robert Mann, M. D., Memphis.

"Streptococci Infections," by Lloyd Arnold, M. D., Nashville. To open discussion: William Krauss, M. D., Memphis.

A paper, by Jack Witherspoon, M. D., Nashville.

"Conservation of Ovaries," by V. D. Holloway, M. D., Knoxville. To open discussion: Geo. R. West, M. D., Chattanooga.

"The Diagnosis of Malaria," by R. C. Derivaux, M. D., Nashville. To open discussion: J. S. Fleming, M. D., Memphis.

"Drainage," by R. A. Barr, M. D., Nashville. To open discussion: George C. Williamson, M. D., Columbia.

"Some Unusually High Cases of Hyperopia," by E. C. Ellett, M. D., Memphis. To open discussion: G. C. Savage, Nashville.

"Cancer of the Stomach," by R. L. Sanders, M. D., and J. J. McCaughan, M. D., Memphis. To open discussion: L. L. Sheddan, M. D., Knoxville.

"Differential Diagnosis in Affections of the Spinal Column," by Willis C. Campbell, M. D., Memphis. To open discussion: J. P. Baird, M. D., Dyersburg.

"Foreign Bodies in the Eye," by B. F. Travis, M. D., Chattanooga.

"The Treatment of Deep-seated Malignancies," by W. O. Floyd, M. D., Nashville. To open discussion: W. S. Lawrence, M. D., Memphis.

"Caesarian Section: An Operation of Election," by W. N. Lynn, M. D., Knoxville. To open discussion: J. W. Brandau, M. D., Clarksville.

"Ectopic Pregnancy—Case Reports," by E. H. Baird, M. D., Dyersburg. To open discussion: H. M. Cass, M. D., Johnson City.

"The X-Ray an Aid to Surgery," by C. P. Fox, M. D., Greeneville. To open discussion: H. H. McCampbell, M. D., Knoxville.

"Pelvic Infection," by W. M. McCate, M. D., Nashville. To open discussion: J. K. Blackburn, M. D., Pulaski.

"Diagnosis: Its Present-Day Aspects," by R. L. Motley, M. D., Dyersburg. To open discussion: J. H. Litterer, M. D., Nashville.

"Radium in Gynecology," by John M. Maury, M. D., Memphis. To open discussion: E. T. Newell, M. D., Chattanooga.

A paper, by G. A. Hays, M. D., United States Public Health Service, Nashville.

"*Illeus*," by Robert Caldwell, M. D., Nashville. To open discussion: Battle Malone, M. D., Memphis.

"The Systemic and Local Treatment of Eczema," by J. M. King, M. D., Nashville. To open discussion: R. G. Henderson, M. D., Memphis.

"Empyema and Its Surgical Complications," by L. E. Bureh, M. D., Nashville. To open discussion: E. B. Anderson, M. D., Chattanooga.

"Gastro-Toxic Hemorrhages," by Otis S. Warr, M. D., and L. C. Sanders, M. D., Memphis. To open discussion: W. H. Witt, M. D., Nashville.

"Report of Cases of Foreign Bodies in the Trachea and Esophagus," by Hilliard Wood, M. D., Nashville. To open discussion: Richmond McKinney, M. D., Memphis.

"Foreign Bodies in the Eye," by B. F. Travis, M. D., Chattanooga. To open discussion: E. C. Ellett, M. D., Memphis.

"The Surgeon: The Profession and the Public," by C. N. Cowden, M. D., Nashville. To open discussion: Geo. R. West, M. D., Chattanooga.

"Some Observations on Obstetrical Hemorrhages," by Percy W. Toombs, M. D., Memphis. To open discussion: W. F. Cannon, M. D., Fayetteville.

"The Treatment of Empyema," by W. C. Dixon, M. D., Nashville. To open discussion: George R. McSwain, M. D., Paris.

"Laryngo-tracheo-bronchoscopy," by A. E. Goodloe, M. D., Chattanooga. To open discussion: Eugene Orr, M. D., Nashville.

"Hodgkin's Disease—Report of a Case of Localized Abdominal Hodgkin's With Pel-Ebstein Syndrome," by W. H. Cheney, M. D., Chattanooga. To open discussion: J. A. Witherspoon, M. D., Nashville.

"The Thomas Splint and Ransohoff Ice Tongs in Treatment of Fracture of Femur," by E. Dunbar Newel, M. D., Chattanooga. To open discussion: Battle Malone, M. D., Memphis.

"Prevention of Postoperative Complications—Postoperative Treatment," by L. L. Shed-

dan, M. D., Knoxville. To open discussion: W. T. Black, M. D., Memphis.

"Malaria in Tennessee," by W. G. Stromquist, Assistant Sanitary Engineer, United States Public Health Service, Memphis, or Mr. J. A. LaPrince, Senior Sanitary Engineer, United States Public Health Service, Memphis. To open discussion: Louis Leroy, M. D., Memphis.

"Some Unusual Manifestations of Malaria, With Report of Cases," by E. O. Jenkins, M. D., Clifty. To open discussion: N. S. Walker, M. D., Dyersburg.

"The Prevention of Communicable Diseases in Children," by Oliver W. Hill, M. D., Knoxville. To open discussion: K. S. Howlett, M. D., Franklin.

"Birth and Death Registration in Tennessee," by H. L. Baugh, M. D., Nashville. To open discussion: W. E. Hibbett, M. D., Nashville.

"The Etiology of Diabetes Mellitus," by W. K. Vance, M. D., Bristol. To open discussion: E. R. Zemp, M. D., Knoxville.

"The Treatment of Carcinoma and Fibroma of the Uterus, With Special Reference to Radio-Active Elements," by E. T. Newell, M. D., Chattanooga. To open discussion: W. D. Haggard, M. D., Nashville.

"The State Care of the Insane," by W. Scott Farmer, M. D., Nashville. To open discussion: E. W. Coeke, M. D., Bolivar.

"Observations on Intravenous Injections of Formalin in Pneumonia," by W. T. Swink, M. D., Memphis. To open discussion: C. J. Carmichael, M. D., Knoxville.

"Empyema," by W. F. Clary, M. D., Memphis. To open discussion: Bryce Runyon, M. D., Clarksville.

"Five Thousand Industrial Accidents," by Thomas J. Hicks, M. D., Copperhill. To open discussion: J. Walter McMahan, M. D., Maryville.

"A Consideration of the Causes of Peritonitis," by J. L. McGhee, M. D., Memphis. To open discussion: H. M. Tigert, M. D., Nashville.

"A Plea for Better Clinical Diagnosis," by A. L. Rule, M. D., Knoxville. To open discussion: R. S. Perry, M. D., Columbia.

"Some of the Aspects of the Influenza Epidemic of 1920," by C. B. A. Turner, M. D.,

Dyer. To open discussion: M. A. Blanton, M. D., Union City.

"Educating the Patient in the Treatment of Gastrointestinal Diseases," by Seale Harris, M. D., Birmingham, Ala. To open discussion: James B. McElroy, M. D., Memphis.

"Surgical and X-Ray Treatment of Malignant Tumors," by W. A. Bryan, M. D., and J. M. King, M. D., Nashville. To open discussion: E. M. Holder, M. D., Memphis.

#### PROGRAM OF SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY.

1. Dr. W. W. Potter, "Chairman's Address."

2. "The Present Status of Operations for Glaucoma," Dr. Hilliard Wood. To open discussion: Dr. E. C. Ellett.

3. "Limbus Cataract Section. Technique Illustrated by Lantern Slides," Dr. Samuel T. Hubbard. To open discussion: Dr. Hilliard Wood.

4. "Special Address," Dr. Perry Reaves, Greensboro, N. C.

5. "Angiomata of Lachrymal Sac," Dr. E. B. Cayce. To open discussion: Dr. B. F. Travis.

6. "Gangrenous Tonsillitis, With a Report of Two Cases," by Dr. O. Dulaney. To open discussion: Dr. J. McChesney Hogshead.

7. "Baranay Tests," Dr. John J. Shea. To open discussion: Dr. H. E. Christenberry.

8. "Reporting a Case of Brain Tumor, Showing the Value of Baranay Test as One of Our Early Diagnostic Methods," Dr. Louis Levy. To open discussion: Drs. R. C. Bunting and E. C. Ellett.

"A Plea for the Early Removal of Hypertrophied Tonsils and Adenoids in Children," by L. M. Scott, M. D., Jellico. To open discussion: Jere Caldwell, M. D., Nashville.

### NOTES AND COMMENT

Chattanooga!

April sixth, seventh and eighth!

The eight-seventh annual meeting of the Tennessee State Medical Association!

If your annual dues to the Tennessee State Medical Association are not paid on March 31, 1920, your name will disappear from the rolls of this Association and of the A. M. A.

Dr. J. Henry Litterer, Nashville, has opened offices in the Eve Building. His practice will be limited to bacteriology, pathology and clinical microscopy.

Dr. J. M. Shelton was elected President, and Dr. J. M. McWilliams, Secretary, of the Lincoln County Medical Society at the January meeting.

Dr. B. B. Sory, Secretary of the Robertson County Medical Society, has reported five names for 1920 enrollment—Drs. M. L. Bradley, W. W. Porter and R. L. Matthews, all of Springfield; Dr. G. R. Jones, Orlinda; Dr. B. B. Sory, Cedar Hill.

Dr. W. B. Harrison died at his home in Columbia on February 5, 1920. Dr. Harrison was one of the oldest physicians in the state, having passed his ninetieth year. He was in practice until a week or so before his death. He had long been identified with his county and state medical societies.

The Giles County Medical Society has organized for 1920 with Dr. G. D. Butler, Pulaski, President; Dr. Wm. Cole, Minor Hill, Vice-President; Dr. C. A. Abernathy, Pulaski, Secretary; Dr. G. C. Grimes, Pulaski, Treasurer; Dr. G. D. Butler, Delegate; Dr. G. C. Grimes, Alternate Delegate.

Dr. W. B. Lunsford, for some time assistant superintendent of the Central Hospital for the Insane, is now associated with Dr. Jno. W. Stevens, at City View Sanitarium, Nashville.

→ Dr. E. A. Boswell, formerly of Tipton County, is now practicing medicine at Troy, Tenn.

Dr. Harry D. Miller, Secretary of the Washington County Medical Society, reports



twenty-three members, all of whom paid medical defense. Dr. J. G. Moss, Johnson City, is President; Dr. Lee K. Gibson, Johnson City, Vice-President; and Drs. E. T. West, Geo. J. Sells and E. A. Long, all of Johnson City, are Censors for 1920.

The Rutherford County Medical Society met on February th, and elected officers for 1920 as follows Dr. M. B. Murfree, Murfreesboro, President; Dr. J. M. Shipp, Readyville, Vice-President; Dr. J. A. Scott, Murfreesboro, Secretary-Treasurer. Dr. Murfree was chosen for Delegate and Dr. V. S. Campbell as Alternate Delegate.

It is with much pleasure that we can inform the many friends of Dr. Sydney Thompson that his health has so improved that he is now back at his work as Assistant Superintendent at the Central Hospital.

The Jackson County Medical Society elected officers for 1920 at a meeting in Gainesboro on March 1. Dr. J. D. Quarles, Whitlyville, was chosen President; Dr. R. C. Gaw, Gainesboro, Secretary; Dr. C. E. Reeves, Gainesboro, Delegate, and Dr. Frank Clark, Haydensburg, Alternate. All Jackson County members pay the medical defense assessment.

Dr. K. M. Ferguson, formerly one of the staff of the Indiana State Hospital at Logansport, is now Assistant Superintendent of the Central Hospital at Nashville.

The next examination by the American Board for Ophthalmic Examinations will be held in New Orleans on April 26th. Dr. W. H. Wilder, of Chicago, is the Secretary and Dr. E. C. Ellett, of Memphis, is a member of this Board.

All medical examiners of the Volunteer State Life Insurance Co. in attendance upon the Chattanooga meeting are invited to be present at a luncheon at the Hotel Patten at 12:30 on Wednesday, April 7. They will report at 12 o'clock at the office of Dr. Jno. B. Steele, Medical Director, in the company's

building. Dr. Steele has asked that this invitation be extended through the Journal.

Dr. J. B. Havener, for a number of years a very popular physician and member of the Obion County Medical Society, has located at Hope, Ark.

Dr. G. A. Hatcher, for several years assistant superintendent at the Central Hospital for the Insane, has located at Fayetteville, where he will practice.

## MISCELLANEOUS

### PULMONARY SYPHILLIS.

In a paper from the Department of Medicine of the Jefferson Medical College, Funk expressed his belief that late syphilis of the lung occurs clinically more often than is generally taught. Diagnosis is difficult, and judgment may have to be suspended until lues has been controlled by treatment, when "apical rales" will clear with the associated bronchitis if signs are due to syphilis. The author reports in detail three cases of what he believes were pulmonary syphilis that have come under his own observation. In arriving at a diagnosis, the following points are important (1) the history; (2) signs of syphilis in other organs; (3) the location of the lesion—syphilis usually involves the hilar areas of the bases, unusually rare locations for primary tuberculosis lesions; (4) the persistent absence of tubercle bacilla when signs of advance pulmonary disease are evident; (5) a positive Wassermann reaction when all tests for tuberculosis are negative; (6) certain roentgenographic features which the author gives in detail; and (7) the response to anti-syphilitic treatment.

Funk, Elmer H.: "Pulmonary Syphilis;" American Rev. Tuberc., Vol. 3, No. 12.

### TWO HUNDRED AND TWENTY-TWO NURSES DECORATED.

The latest figures from the War Department show that the pluck and the high professional skill of American Red Cross nurses,

reserve members of the Army Nurse Corps, won for two hundred and twenty-two of them decorations or citations from the United States and various foreign governments.

Courageous and untiring, the full measure of credit due these workers can never be given. Europeans realize more fully the value of their work because of direct contact with it, and the most enthusiastic admiration of the Old World goes out to them. But instances of extraordinary individual effort from varied sources reach the ears of Americans. A major connected with the Army Medical Corps tells this story:

"With lights on in the operating room, we were working faster and faster until all of a sudden, above the din, we caught a peculiar sound, once heard, never forgotten. Then the cry, 'Lights out! C'est le Boche!' Then came pitch blackness and a splintering, crashing sound right above my head. I got dizzily to my feet, looking about the smoke-streaked room. Through the haze I saw my operating room nurse, Miss S., leaning over the poor chap on the table, where that bomb had followed him, even here. Then she ran to the anesthetist, then to me, and for ten minutes she seemed the only quiet, sane reality in that rocking, bomb-torn room until Fritz had spent his store and left us. I saw her hesitate at the door, sway for a moment, and then crumble down as we ran to her.

"She is in an army hospital now, with the hideous wound she had, but you couldn't get her to talk about it, any more than about the distinguished service cross she sent home to her mother."

This story fits hundreds of cases. Cold figures of the War Department show that twenty-eight American Red Cross nurses wear the Croix de Guerre of France, two the British Military Medal, fifteen the British Royal Red Cross, first class, and fifty-two the British Royal Red Cross, second class. Sixty-seven have been decorated with the Medaille de la Reconnaissance of France. One nurse wears the Medaille de la Reine, of Belgium, three the Silver Cross of St. Anne of Russia, while the distinguished service cross of the United States has been conferred upon three others, and the distinguished service medal upon two American Red Cross nurses.

Sir Douglas Haig's list of mentions for gallant service on the western front includes the names of thirteen Yankee nurses; five others have received the British certificate of merit, while General Pershing has cited thirty-four for distinguished service and unusual bravery under shell fire.

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#### OPERATION AND RECOVERY IN SPONTANEOUS PNEUMOTHORAX FOLLOWING ARTIFICIAL PNEUMOTHORAX.

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A patient with acute tuberculous bronchopneumonia was treated by artificial pneumothorax. Thirty-four days after the first introduction of nitrogen gas, and following a coughing fit, spontaneous pneumothorax developed. At first partial; within twelve days, the spontaneous pneumothorax had become complete, and purulent fluid developed in the chest. The patient became very septic and gravely ill, and on the eighteenth day of the spontaneous pneumothorax a rib resection was done under local anesthesia. C. H. Cooke, of Asheville, communicates this case report, notes that, after surgical operation, the patient's relief was spectacular, and that his fever disappeared within a day or two and has remained normal since. The author discusses the probable causes of spontaneous pneumothorax following artificial pneumothorax, but comes to no conclusion regarding its etiology.

Cooke, Charles Hartwell: "Spontaneous Pneumothorax Following Artificial Pneumothorax, with Operation and Recovery." *Amer. Rev. Tuberc.*, Vol. 3, No. 12.

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#### WAR'S EFFECT ON FRENCH CHILDREN.

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The effect of the war on the children of France is shown in a recent report submitted by the American Red Cross headquarters at Lille. The figures are furnished by the Municipal Bureau of Hygiene.

The city had a pre-war population of 200,000. The birth rate has shrunk from nearly 4,900 in 1913 to only 600 in the past year. The figures by years follow:

1913 -----	4,885 births.
1914 -----	4,540 births.
1915 -----	2,155 births.
1916 -----	640 births.
1917 -----	600 births.
1918 -----	600 births.

This indicates a total loss of 15,000 births during the war.

The death rates according to ages are not known, but since the armistice a survey has been made in all public and private schools with a view to obtaining appropriate food for all children whose development has been retarded, and to place all those who show signs of tuberculosis in the care of institutions and welfare organizations. Of 18,000 children in school at Lille at the time of the armistice, over 6,000 had to be sent to hospitals or convalescent centers.

This survey indicated that 60 per cent of the school population showed signs of arrested development, while about 40 per cent gave evidence of ganglionic or pulmonary tuberculosis. In one typical school, out of two hundred and ten examined, only one was in normal health.

#### PHARMACY BY ACT OF CONGRESS.

For years the manufacture of "patent" medicines" have assured us that the alcohol in their nostrums was used only as a solvent, preservative or extractive agent. Thus Wine of Cardui at one time contained 20 per cent of alcohol, and the manufacturer claimed that no more was used than was needed as a solvent and preservative, and that attempts to substitute another preservative had proved futile. Then came national prohibition and now Wine of Cardui contains 10 per cent of alcohol and its preservative powers have been fortified by the addition of benzoates. (Journal A. M. A., Feb. 28, 1920, p. 607.)

#### DUPONT COTTON PROCESS ETHER.

Recently the "news service" of the E. I. DuPont De Nemours & Co., Inc., circularized the press of the country with a "filler" about "The New DuPont Ether." The Dupont ether and the claims made for it are seeming-

ly based on the work of one man, James H. Cotton, M. A., M. D., Toronto Canada who published an article on "Cotton Process Ether and Ether Analgesia." However, Cotton did not give the composition of the "new" ether, nor does his work appear to have been corroborated. In reply to an inquiry from the Secretary of the Council on Pharmacy and Chemistry, the DuPont Chemical Works declared that the "procedure of manufacture, and the exact composition" of the ether was regarded as confidential information. The use of a therapeutic agent of unknown composition is unscientific and contrary to the best interests of the medical profession and the public, but it is many times more serious for physicians to use a secret or semisecret substance as an anesthetic. , "

Dr. Katherine L. Storm, of Philadelphia, is announcing the removal of her offices from 1541 to 1701 Diamond street, Philadelphia. The new building which Dr. Storm has purchased has trebled the capacity of her present building, and is being equipped with every facility for quick and exact work. Dr. Storm is justly proud of the ever-widening demand for the Storm binder and abdominal supporter, and is planning to maintain her reputation for immediate response to each order.

#### BARBITAL (VERONAL) ADDICTION.

The constant use of even small doses of barbital (veronal) affects the central nervous system. Those taking the drug habitually become much debilitated and seem less able to stand moderate doses. Death has occurred from a 3 gm. dose in addicts. (Jour. A. M. A., Feb. 21, 1920, p. 544.)

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# **THE JOURNAL**

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### **SURGERY AND X-RAYS IN MALIGNANCY.**

By W. A. Bryan, M.D., F.A.C.S.,  
Nashville.

Every malignant tumor is, theoretically at least, curable up to a certain stage in its development. Sarcoma and carcinoma alike originate either from a single cell or from a very narrowly limited group of cells. Hence any plan of treatment that removes all these cells, destroys or devitalizes them, cures the tumor. It is not material whether this is accomplished by the knife, the cautery, an escharotic, intense heat or radiotherapy. The plan chosen is a matter of expediency. The result is uniformly a cure when the malignant cells are no longer able to live in the tissues.

Clinically the layman knows as well as the most learned physician how woefully short these agencies fall of uniform cure. In other words, there is an all too frequent time in the life course of malignant tumors when they are cured with only indifferent success, and another later time when they offer a hopeless prognosis. This hopeless point in tumor development is reached in one of the following ways: 1. The tumor cells may invade tissues adjacent to the tumor mass in sufficient quantity to insure continued growth of the tumor after treatment (so called recurrence), but to such slight extent that no one could by microscopic examination detect the presence of cancer cells. The operator considers the tissues normal and leaves them with their malignant content.

2. Tumor tissue tends in accordance with a very elemental law to grow along lines of least resistance, and, when confined into narrow spaces by rigid structures, will send small processes through adjacent apertures; these, upon reaching less restricted parts, expand into considerable tumor masses which are part and parcel of the original growth, connected with it by a very narrow pedicle. The original mass may be removed, the pedicle remain unseen and the second mass continue its unsuspected growth. 3. The cells of certain malignant growths have the power of amoeboid movement, and these cells wander some distance from the primary mass and establish new tumors surrounding, but not attached to, it. If the operative treatment of the earlier growth is undertaken before these develop into palpable masses, but after they have escaped, it is practically certain that some of them will be left intact. 4. The growth of malignant tumor processes along the lumina of lymph channels is a well known trait of carcinoma and far less frequently of certain sarcomata. Upon reaching the obstruction of the node they invade it and produce one form of malignant glandular involvement. If the gland is so situated that it cannot be removed, or if so small that it cannot be palpated, it may escape notice; or the tumor may be removed and with it the affected glands, but the intervening radicle that connects the two may remain. In either instance cure has not been accomplished; and here, as in some of the preceding instances, failure has occurred perhaps by the narrowest margin. 5. Again, malignant cells may escape into the lymph vessels and lodge at a node and produce a true lymph

phatic regional metastasis. 6. Finally, the malignant cells gain admission to the blood vessels and are carried to the remotest regions of the body, producing general metastases. The last is the only one of these groups that is essentially and uniformly hopeless. The others may be so by virtue of circumstance. The last one is always incurable.

The rule of operative surgery in malignant tumors is to remove the entire growth and all secondary processes, all extensions, in such a manner as to permit no grafts to remain; hence the tumor substance must not be cut, torn or punctured if this can be avoided; to handle the tumor masses so gently that the chance of liberating metastases in the name of a cure will be reduced to a minimum; to cut off the blood supply as a distinct preliminary temporary procedure, or to plan the operation so that the circulation will be cut off at an early rather than a late stage of the operation; to do a block dissection where lymph nodes must be removed as part of the particular or rather routine procedure.

The cases in which the method under consideration has been employed have been chiefly in the regions of the face, the head and the neck. They have been by no means confined to these regions. A large percentage of the tumors have been so advanced that they would justly require to be classified in the inoperable group, if we were to consider them in the light of the traditions of our profession. Many of the cases have been apparently cured, many have had their lives prolonged, and a few others have had great comfort result from the plan of treatment. When the degree of advancement is considered, the results have been gratifying beyond our wildest hope, and this in spite of the fact that the majority belonged to the inoperable class. The work has been discouraging at times owing to the fact that after an apparently perfect cure, the tumor would show up again and require another operation and another course, perhaps more vigorous, of x-rays. But recurrence need not be looked upon too unfavorably, but as

an evidence that the work was incomplete at the beginning and another dose was needed.

The plan followed in this group of cases has been to excise the tumor as completely as possible, and leave the wound completely open, applying gauze dressing after covering the wound with a liberal amount of sterile vaseline to prevent sticking. On an early subsequent date x-ray treatment is begun and continued as outlined in Dr. King's paper.

The excision is accomplished chiefly with a view to removal of the tumor; the tumor is cut out rather than dissected out, and only structures of vital importance are allowed to cause variation from this rule; and the structures of really vital importance are so few that a much wider range of action is allowed than one would at first think. In the parotid gland the seventh nerve is sacrificed and the consequence of this is explained before operation—an unimportant consequence, in fact, for as the tumor advances paralysis of this nerve is apt to be produced by pressure or infiltration any way. I had a case of parotid sarcoma about six months ago, in which although the tumor was only moderately advanced the seventh nerve was almost completely out of commission. When only a part of the parotid is involved, no effort should be made to save the remaining portion. In case the tumor originates on, or advances from, an adjacent site onto the ear it has been found wise to remove the whole ear in almost every case, and definitely in every case where the cartilage has been invaded. I have removed a portion of the ear in several cases hoping to retain the remaining portion for cosmetic reasons, and I believe in every instance have had later to remove that remainder. If the carotid vessels or their branches are surrounded by the tumor, the common carotid occasionally will require ligation. When the tumor invades a large volume of tissues and a large number of structures—for instance, in the upper neck—an incision is made around the entire indurated mass a half inch from its border if possible, and muscles, nerves and blood vessels are cut until the mass can be lifted out. All bleeding points are ligated with catgut



unless this is impossible; then hemostats are left applied to the bleeding vessels 24 to 36 hours.

The vaseline dressing is applied immediately and the dressing changed as in other similar wounds.

X-ray treatment is begun as soon as may be convenient. The patient's condition is often such that it is begun the day after operation, and it is rarely deferred by any cause later than the third or fourth day.

Attention has been called above to the fact that the combined method of treatment enables us to offer hope to many patients that have passed the formerly established borderline between operable and inoperable cases. Owing to the advanced stage of many of the cases attacked, it happens frequently that recurrences must be dealt with. Hence these patients must all be held under rigid surveillance for at least three years after the last treatment, and should be warned in the beginning that the earliest evidence of recurring growth is an unmistakable demand for immediate repetition of the treatment. Formerly we considered return of the tumor almost as confirmation of a hopeless prognosis. With this plan the hopelessness is very much lessened. We have treated several cases that required the second or even third operation, in which finally the reward of at least an apparent cure has been attained. In several others we have been satisfied that life was prolonged and comfort was extended months or years longer than otherwise would have been the case.

There is no place in surgery where the old-time fearless surgery is so applicable as it is in these cases; no place where x-rays may be used more vigorously than here. And by x-rays I do not mean any sort of x-ray outfit capable of making a noisy spark or of emitting the odor of ozone, but rather the application of high power rays with a Coolidge tube. Similarly when radium is used, it is not simply the chemical substance radium, but radium in sufficient volume effectually to send its rays to the depth of the field under treatment. In both instances the demand is for maximum tolerable doses.

## VACUUM FRONTAL SINUSITIS.

By Louis Levy, M.D., F.R.C.S.,

Associate Professor Rhinology and Otolaryngology, Medical Department, University of Tennessee,  
Memphis.

I have given this name to a type of frontal sinusitis I have found so common in patients who have had an attack of influenza and which causes a great deal of pain and annoyance long after the patient has recovered from the attack. I do not wish you to think, however, that this type of trouble has only originated since the "flu," but only to impress upon you the fact that it has become more prevalent with this epidemic.

In order to better understand this condition, it is well to briefly review the anatomy of the frontal sinuses. It is a well established fact that the anatomy of the adult frontal sinus varies greatly, there being no constancy in size, shape or type. The frontal sinus of the adult is seldom a simple chamber. It is frequently more or less divided into subcompartments or recesses by incomplete bony partitions. While it is true that the right and left sinuses are separated by a bony partition, this partition is rarely in the mid-sagittal plane. The sinuses lie between the two plates of the frontal bone in both the vertical and horizontal portions of the bone. The ventral and thicker wall usually forms the prominence of the forehead above the eyebrows. We must not, however, attempt to judge the size of the frontal sinus by this prominence. The dorsal and cephalic wall separates the frontal sinus from the frontal lobe of the brain. Bruhl in a study of the frontal sinus found the capacity of the combined sinuses to vary from six to sixteen c. c. The duct leading from the frontal sinus, often called ductus naso-frontalis or the infundibulum, is extremely variable in its anatomy. In fact, a great many frontal sinuses do not have a distinct duct, but rather open directly into the hiatus semilunaris as the pouch-like beginning of this groove. Cover-

ing this opening is the scroll-like appendage of the lateral ethmoidal mass and called the middle turbinate.

No doubt all of you easily recall the onset of influenza with one of its symptoms being an acute coryza. Upon examining the nose of the patient you will find marked congestion, as a rule, of the mucous membrane. As a rule very little attention has been paid to this coryza and in a great many cases it gradually clears up with the lessening of the patient's other symptoms. However, in the cases I am speaking of instead of the coryza clearing it seems to get worse and the patient complains of the stuffiness of the nose, headache, frontal in character, and a peculiar full feeling about the head. This headache often disappears during the day as the nose clears up or it remains the nagging type that even sleep does not relieve but seems to aggravate. A sign that Sluder speaks of as characteristic of the closure of the frontal sinus without suppuration is known as Ewing's sign. "The nasal trouble in these cases is revealed by the tenderness of the upper angle of the orbit at the point of attachment of the pulley of the superior oblique muscle, and internal and posterior to it. This is the portion of the orbit which is made by the frontal sinus, the wall of which at this site is thinnest." The pain in these cases never reaches the intense degree of that produced by a confined empyema.

The diagnosis of these cases in those coming on during the attack of influenza is usually easy, but the cases in which this condition appears after convalescing from the influenza are often the ones that cause the family physician and the rhinologist worry. When pus is seen in the nose and the frontal sinus found at fault it is easy to diagnose, but often the only noticeable point in the nose is the swelling of the anterior end of one or both turbinates, with a general congestion of the mucous membrane. Transillumination of these cases shows nothing. In some cases the x-ray has been of value in that the radiographer has reported front sinus "O. K.," but some congestion about opening of sinuses. Ewing's sign here plays an important part in the diagnosis, for often until the inlet has been enlarged this point will remain tender.

Prognosis in most of these cases is excellent, medical treatment being sufficient. In some it has been necessary to remove the anterior end of the middle turbinate which blocks the inlet in order to free the frontal sinus.

The treatment in these cases, as I have already suggested, is medicinal, and I feel that operations should be performed only after this method has failed, where pus exists, or where we have high deviations of the septum causing pressure on turbinate and in this way blocking the inlet. Remembering that the sinuses in the normal state contain air, it would naturally suggest that treatments should be carried out with the idea of shrinking the tissues blocking the inlet and thereby allowing air free access to the inlet. I have employed the ordinary astringents with very good results, the main point being to get thorough shrinkage of the anterior end of the middle turbinate and applying same to the middle meatus. For home use I instruct the patient in the use of warm saline douche to be followed by a camphorated oil spray. It is certainly gratifying after one treatment to notice the change in the patient who returns telling of the immediate relief which in the majority of cases takes place.

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#### THE POST WAR PHYSICIAN.\*

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By H. R. Fairfax, M. D.,  
Bristol.

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The recent war has taught us many lessons and changed conditions materially in many ways. The draft and enlistment of millions of men for the army and navy have revealed to us the weaknesses as well as the strength of our nation. Two of the most striking things brought to light are the great number of men found unfit for military service, due largely to venereal diseases and the ignorance and illiteracy of so many men. Those of you who have made physical examinations or assisted in filling out questionnaires were no doubt impressed by these facts as I was. But these are only two of the many prob-

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\*Read before Sullivan-Carter-Johnson County Medical Society, April, 1920.

lems that stand out before us now, demanding to be solved in a more effective way than they were before the war.

In mentioning conditions changed by the war we naturally turn to the present industrial and social crisis. Here is another challenge to our profession, another set of problems. The question comes to all of us: Are we helping to contribute to the study of the problems of industry and labor? Dr. Otto Geier, in a paper before the last Clinical Congress of Surgeons, asks this question in the following manner: "Have we adjusted the science of medicine to the needs of these two groups—industry and labor—or have we practiced our profession with individuals just as we might have done one hundred years ago? Is it not strange that we should retain such a narrow perspective of the capacity of the profession to assist in these national problems?"

We as physicians come in closer contact with the masses perhaps than any other body of men or individuals. The public look upon physicians as public characters, earnest, studious men with scientific tastes and literary attainments who are set apart for a lofty purpose and who are mentally and morally worthy of an esteem not accorded many others. That being the case, it should be our pleasure and duty to maintain this public opinion, and more than ever at this present time of unrest and strife among nations, individuals and labor organizations. I believe we post-war physicians are going to try more strenuously than we have in the past to better conditions for labor.

It was left to labor in pre-war days to inaugurate the "workman's compensation" movement and to set under way the "safety first" movement, that has reduced accidents and deaths from accidents by about fifty per cent. The fact that labor, not our profession, started these two movements to improve health conditions ought to be food for thought to us. Perhaps if our profession have been more actively, more vitally interested in bettering conditions for labor and humanizing industry we would have had by this time that badly needed addition to

our government, a Federal Department of Health.

It is imperative that we as physicians become more concerned in improving industrial conditions and in helping to restore industrial peace. With our country showing a tendency in some places of drifting toward what has already taken place in Russia and now in Germany—socialism, rioting, strikes, and bolshevism, and with the latter threatening to break out and spread like a prairie fire fanned by a strong wind, we must be on the alert and allow no opportunity to pass by without doing our bit to maintain social and industrial peace. The service that we can render is more than medical and surgical. We can help to mold public opinion, to change the attitude of the worker in the factory or mine, and to substitute personality where unfeeling cog-like interest has existed before.

Here are a few suggestions as to what each one of us can do to promote and maintain the health of our workmen and to encourage better relations between labor and capital.

At every opportunity we can find or make, we can talk against bolshevism and any other ism detrimental to good government, and so help to still the present unrest.

We can encourage the promoting and the perfecting of the "safety first" movement, thereby lessening preventable accidents. By doing this we will aid greatly in obtaining and maintaining maximum production.

We can be more guarded in our diagnosis and treatment and hasten in every way possible the recovery of the incapacitated. As so much depends on man-power and as there is at present a great shortage in this power, each of us should do our best, or better than our best, so that we can assist in preventing this industrial stagnation and insufficient production, which we all know leads to revolution.

When we consider the ravages that tuberculosis and hook-worm disease, not to mention many other diseases, make upon our workmen, we readily see the great physical and economical drain that these diseases alone cause in keeping down production. Take hook-worm disease, for example, just



to show how we need frequent reminders, lest we forget. A few years ago this disease was widely advertised and war was made against it, yet it is, to a surprising extent, doing "business at the same old stand." When we remember its extent, spreading as it does from the Gulf of Mexico to New York and practically all over Southern Europe, but especially in our Southern States in the cotton, hosiery and knitting mill districts, it is difficult to estimate the injury it has done in keeping down production. I had this impressed upon me very forcibly by several lectures by Dr. C. W. Stiles, of the U. S. Public Health Service, delivered a few years ago before a body of medical students. He made it very clear that much of the South's so-called indolence and its failure to equal the production of Northern factories was due to this disease, its effects ranging from lowering the vitality, stunting growth of children, impairing of mental capacity, usefulness and efficiency to death. Early diagnosis and vigorous treatment will result in the preservation of many lives and will help to prevent the affected persons from becoming sources of infection for others.

Post-war medicine is—and as I believe as it should be—moving more rapidly toward prevention than cure. The wonderful results of the improvement in sanitation developed in our camps to minimize diseases is an incentive to us to keep harping on better sanitation in the whole country.

We often make suggestions along hygienic lines which are frequently disregarded, and when this is the case, after two or more times such suggestions are repeated and yet go unheeded we are prone to become discouraged, think it is of no use and say to ourselves, "Let the other fellow do the suggesting." With time, patience and perseverance we will receive our reward in seeing improvements made along this line.

For best results we should forget our petty differences and work more in harmony and on the co-operative plan. In medicine now, as in the business world, consolidation is more than ever the order of the day, as evidenced by the consolidation of many of the smaller with the larger medical colleges, uniting

brains and capital, increasing the facilities for treating, teaching and research work. As is already demonstrated in many of the large hospitals, groups of physicians are to some extent working together. The Mayo brothers clinic, for example, facilitates the work in diagnosis and treatment by their united and co-operative work of their different departments.

Medicine and surgery being such broad subjects, none of us will live long enough to learn all that is to be known of either, and as it is the health of our patients that is at stake, it is up to us to resort to the easiest, quickest and best methods of treatment to restore them to health and strength and thereby put them back on the earning and producing list. In the rural sections this grouping of physicians and facilities is more difficult, but with improved highways, more automobiles, flying machines, etc., this will become less so. In the prairie section, some of our Western physicians are already making professional calls in aeroplanes.

In one of our Western States some ingenious ranchman a few years ago determined to utilize the sun's rays to help irrigate his ranch. By arranging an enormous funnel-like receiver lined with mirrors reflecting the sun's rays towards the center, he was enabled to concentrate enough heat to run an engine, which in turn pumped water to irrigate his land.

So it is with us, physicians and surgeons. Singly our efforts, like a few scattered sun rays, may not accomplish a great deal, but with our united efforts brought about by consolidation, the results will be very much more effective and far-reaching. This consolidation is sure to come, and its cost will necessarily be great, in instruments, appliances, chemicals, etc., necessary in the various tests used in modern laboratories and up-to-date hospitals. There are few general practitioners who are able financially to equip themselves with all of these, or able to use them scientifically if they were equipped. The wealthy and paupers can have the benefit of such grouping or consolidation, but as to how it can be extended to the man or woman of moderate means who is equally entitled

to the benefit of such treatment, but not financially able to pay the specialist's fee in each department, is a problem which I leave for you to solve.

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### BIRTH AND DEATH REGISTRATION.

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By H. L. Baugh, M. D.,  
State Registrar of Vital Statistics,  
Nashville.

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When asked by the Secretary to contribute an article pertaining to vital statistics, I embraced the opportunity with the hope, at least, of saying something that would attract attention of members of this body to the extreme importance of birth and death registration; and it is to the subject of registration of births that I especially invite your attention, since this duty rests primarily with the doctors.

The proper registration of births and deaths is of paramount importance to a community, state and nation. Not only are such records important and absolutely necessary for the accurate and scientific study of disease and its proper prevention, but they are also important from legal, social and industrial standpoints. Questions of age, property rights, heredity, legitimacy and identity can be clearly and definitely established by a complete system of birth and death registration.

No child labor law can be of value unless it rests on a system of birth registration and birth certificates whereby the child or parent can be required at any time to produce positive proof of the age of the child. The same is true as regard the age of consent laws.

It is equally important that all deaths be recorded, since such records are indispensable in determining death rates, duration of life, and in detecting and preventing crime.

Practically all civilized countries except the United States have adequate registration. Europeans look with astonishment upon the American people when they learn we have not. Germany utilized to decided advantage her store of statistical knowledge in estimating the strength of her manpower during the war. Great Britain has found her vital sta-

tistics invaluable in both legal and public health affairs, and also in connection with her life history.

We have had in Tennessee since 1913 a system of birth and death registration conforming to what is known as the "model vital statistics law." This law embodies the ideas and experience of eminent statisticians for half a century or more, and may be said to represent the combined judgment of those most interested as well as those who are in a position to speak with authority on the subject. As evidence of the success and practicability of the model law it may be said that it has the endorsement of the Census Bureau of the United States, the American Medical Association, the Public Health Association, the American Statistical Association and the American Association for the Prevention of Infant Mortality, as well as of the Tennessee State Medical Association. A number of states, and many cities where there are no state laws, have adopted this same system, as have also a number of the provinces of Canada.

Aside from the legal, social and industrial value of birth and death registration, all efforts at sanitation and public health work would be handicapped and almost futile without vital statistics. No health department, state or local, can effectively prevent or control diseases without knowledge of when, where, and under what conditions they are occurring. To the sanitarian vital statistics is the indicator which points out the disease spots in the territory under his jurisdiction. It is the barometer that records the rise and fall of the health of a city, state or nation. Some writer has very aptly termed the accurate registration of births and deaths the "bookkeeping of humanity."

I feel sure that more need not be said concerning the value and usefulness of birth and death registration, but rather would I call your attention to the importance of helping to more fully complete Tennessee's registration.

The burden of death registration rests chiefly with the undertakers, or persons acting as such, and that of birth registration with the physician or midwife in attendance.

I wish to say, and that to the credit of the former, that today we are securing certificates for more than ninety per cent of the deaths of those who die in Tennessee, but it is a lamentable fact that our birth registration is far below what it should be, being much less complete than death registration. This state of affairs is due almost entirely to the negligence of some physicians, the ignorance of midwives, and the failure of registrars to enforce the law.

What are we going to do to improve this condition? Notwithstanding the fact that no direct personal remuneration accrues to the physician upon whom this responsibility chiefly falls, the activities and prominence of his profession, as well as the laws of the state, demand this work of him, and no physician has fully discharged his duty to the home in which he practices until he has registered a birth certificate for each child born into that home. Instead of disregarding their duties relative to the registration of births, the whole profession should willingly and cheerfully encourage the effective administration of the law by complying promptly with its provisions and by supporting health officers and registration officials in the performance of their duties.

The greatest opportunity for effective public health work today lies in the prevention of infant mortality and, as a preliminary to an intelligent study of the subject, it is necessary that we know when and where the babies are born and when, where and from what causes they are dying.

I therefore earnestly and sincerely urge every member of this society not only to comply with the law by promptly filing all birth certificates with his local registrar, but that he take advantage of every opportunity to explain the value and usefulness of the law to the people in his community. To do this will go a long way in placing Tennessee in the federal area for birth registration.

As State Registrar, I promise my best efforts in the administration of the law and in recommending and helping to secure legislation providing for the registration of all women who practice midwifery in Tennessee.

## EDUCATING THE PATIENT IN THE TREATMENT OF GASTRO-INTESTINAL DISEASES.\*

By Seale Harris, M. D.  
Birmingham, Ala.

Dr. Weir Mitchell, in his admirable little book, "Doctor and Patient,"\* relates that one of his patients asked him how a case like his would have been treated a hundred years ago, and in the preceding centuries. This query caused Dr. Mitchell to become interested in looking up old literature on the management of nervous diseases. He found that in 1551, Cardan, the great Italian physician, went into minute detail in giving directions regarding diet, exercise, baths, etc., to John Hamilton, Archbishop of St. Andrew's, Scotland.

Dr. Mitchell dug up a number of references regarding Sydenham's methods in the seventeenth century. Sydenham taught his patients the daily routine which they must follow in order to regain health. Dr. Mitchell said of Sydenham: "He tells of a friend who had been much dosed for dyspepsia, and how he bade him ride, and abandon drugs, and how after a thousand miles of such riding he regained health and vigor." "A gouty man must be moderate, not too abstinent, so as to get weak. One meat is best," etc. Sydenham advised "total abstinence from wine and fermented liquors, early hours and early rising. Then there comes wise words as to worry and overwork." Dr. Mitchell's approval of Sydenham's methods is as follows: "I would rather have trusted him, with all his queer theories than many a man with the ampler resources of today." Dr. Mitchell also discussed the methods of Rush, who gave explicit written directions to his patients, and he quotes a letter from him written in 1789 which shows that he felt that teaching his patients how to live is an important consideration in the practice of medicine.

\* Read before Tennessee State Medical Association, Chattanooga, Tenn., April 7, 1920.

\*\* "Doctor and Patient," 1887. J. B. Lippincott Company.



Dr. Mitchell's conclusions regarding the methods of treating disease by the most celebrated men of the past is worth remembering. He said: "It would, I think, be found that the best men of every time were most apt to consider with care the general habits of their patients as to exercise and diet and to rely less than others on mere use of drugs."

### **The Doctor as a Teacher.**

In order to regulate the lives of patients it is necessary to point out to them their hygienic faults and to teach them the principles of physiologic living. This is particularly important in the treatment of digestive diseases, because a very large proportion of the persons who consult physicians for relief of symptoms referable to the gastro-intestinal tract, are ill because they have not been living hygienic lives. This is not surprising when it is remembered that the science and practice of personal hygiene is taught in but few of our schools and colleges. In some of the high schools and smaller colleges, a perfunctory course in physiology is given, but the average college graduate is as ignorant regarding the care of his body as is the illiterate laborer. This is more than passing strange, because many of the failures in life among all classes of men and women are due to diseases that result from improper living.

In taking case histories for the past fifteen years, during which time practically all my work has been given over to the treatment of chronic abdominal diseases, I have learned that it is most important to find the particular errors in the life of the patient that were responsible for the symptoms which caused him to consult a physician. "The cardinal principle in the treatment of disease is to find the cause and remove it." Often the only way to remove the cause is to educate the patient regarding the particular things which he should know to get relief from, and to prevent recurrence of, his symptoms. I have come to regard a patient as a teacher looks upon a pupil, and my best results in practice have been among patients whom I have taught how to live.

### **Thorough Examinations Essential.**

The chronic sufferer with digestive disease gets but little sympathy, and less attention from many physicians. The "dyspeptic" goes to a careless doctor, and there are some such in every community, who asks a few questions, looks at the patient's tongue, feels his pulse, and writes a prescription, or gives him medicine which does not relieve the symptoms. The patient then goes to other such doctors, and finally lands in the hands of the osteopaths, chiropractors, or other quacks who by suggestion (psychotherapy) often cure where busy physicians have failed. There is no question but that our careless slipshod methods, and our unsympathetic attitude towards patients whom we think are not seriously ill, or who are what we call "hyped," are responsible for the fact that every advertising chalan in the country has an office full of patients, from whom he extracts fat fees. It should also be realized by the medical profession that some quacks, as we call them, often know more of human nature and psychotherapy than many ethical doctors. Medical quackery and cults like Christian science will cease to exist when well-trained physicians take time to examine their patients thoroughly and then educate them to live rational, hygienic lives.

A thorough examination, and an accurate diagnosis, are essential in the treatment of chronic abdominal disease. Indeed, the first step in the education of a patient is to be able to inform him exactly what his trouble is, of what brought on the symptoms, and of what he must do to secure relief. The pupil will not learn from the teacher whom he thinks does not know the subject he is teaching; and the patient will not have confidence in the physician who has not made a careful examination and who does not speak with the authority of one who has been well trained in modern medicine.

It is in the functional disorders of digestion that educating the patient is the most potent form of therapy; and properly applied it may make the use of medicine unnecessary. The physician in dealing with

such cases should be as careful in his diagnostic methods as if he were sure of an organic lesion. I do not mean that all the "frills and furbelows" of modern technic in diagnosis should be used simply to impress the patient; but it is right and proper to be thorough in the study of the neurotic individual, because there is frequently an organic basis for the gastric and intestinal neurosis which will be overlooked if the physician has not the habit of painstaking accuracy in his work. Besides, if the sufferer from functional disorders is shown that every effort has been made to find the disease that he fears is the cause of his symptoms, he will be convinced when told that he has not a serious trouble and that he can be relieved by regulating his life.

#### Importance of the Anamnesis.

In studying digestive cases it is most important to get the facts regarding the habits of the patient, because it is irrational living, usually from the lack of knowledge regarding personal hygiene, that brings on the symptoms with which the patient suffers. I therefore have a series of questions that are asked every patient. They are as follows:

1. Are you a large, small or medium eater?
2. What articles of food disagree?
3. Do you eat rapidly? Do you masticate your food thoroughly?
4. How many times a day do you eat meats? What kind of meat do you eat and the sizes of the portions?
5. How much sugar and other sweets do you ingest a day?
6. Do you drink (1) coffee; (2) tea; (3) coca cola; or (4) other caffeine beverages? If so, how many cups or glasses of each per day?
7. Do you drink alcoholic beverages? If so, in what form and how much is your daily average? Did you ever drink to excess?
8. How much water do you drink a day? How much with meals?
9. What is the condition of your bowels, (regular, irregular, constipated, or diarrhoea)? What purgatives or laxatives have you taken?

10. How many hours sleep do you average a night? When does your work begin and end? How many hours a day do you work? Character of work?

11. Are your teeth in good condition? How many times a day do you brush them? How often do you have the dentist clean them?

12. Special inquiry regarding nasal and throat infections.

13. How much exercise do you take each day, and in what form?

14. Do you use tobacco? If so, in what form and how much is your daily average?

15. What is your average weight? Present weight? Height?

16. Are you nervous? If so, how is it manifested? Do you worry?

After learning the particular errors in living that are probably responsible for the symptoms, the patient is given lessons on personal hygiene as applied to his particular case.

It often happens that a history is elicited of 5 or 6 cups of coffee, or tea, a day, or he has the coca cola habit, then the patient is taught the physiological effects of caffeine, and how he is being injured by it. It may be that the patient is trying to live with only 5 or 6 hours sleep a night, or that he is working 12 or 15 hours a day. When he is taught that the toxins of fatigue depress the nervous centers and that various symptoms may follow overwork, he will be willing to quit dissipating in business, or pleasure. The excessive use of tobacco upsets digestion more than most of us realize, and the doctor should first seek to inform himself regarding the recent investigations on the effects of smoking, and then he should teach his patient the truth about tobacco.

A common fault among people is insufficient mastication. The rapid eater should be told that he cannot expect to have good digestion, and that he does not know the joys of eating, when he bolts his food. If he is taught that it is necessary to chew food until it is reduced to fine particles so that it may be acted upon by the digestive juices; and that the thorough mixing of saliva with food

is a most important step in digestion, he will take time for thorough mastication. If the patient admits worry, or the physician suspects that this or other of the baser emotions is partly or wholly responsible for the symptoms he, or she as it more frequently happens, should be taught how to substitute pleasant thoughts for the insistent and disagreeable emotions that are interfering with his or her health and happiness.

If there are evidences of oral sepsis, or of focal infection in the mouth, nose or throat, the patient is referred to a dentist or to a nose and throat specialist for treatment and instruction.

#### **Teaching the Patient What to Eat.**

The quality and quantity of food that the patient eats, as well as the methods of its preparation, should be gone into in detail. Very few people have any more idea of what they should eat or how it should be prepared than the ignorant cook who selects, prepares and serves our food.

How many doctors are there who know how to select a balanced meal from a hotel or dining car menu? Judging from the way that many of the most celebrated men in medicine and surgery consume heavy meats and other proteins and how they gorge themselves up with fats and greasy foods, not to mention the quantities of sweets which they take in three times a day, the medical profession needs education on diet and nutrition.

The most important facts about the food we eat and of how much of proteins, fats and carbohydrates is needed for daily nutrition should be taught to every patient. Persons, even if they have only a "common school" education can be taught to estimate, by calories, the food values of the ordinary portions of food as generally served; and they can learn how to balance their meals so that they will get approximately the right amount of proteins, fats, and carbohydrates with each meal. They should also be taught the importance of eating the green vegetables and other bulky foods, and should be given some of the known facts about vitamins and the fat and water soluble products that Mae-

Collum has demonstrated are necessary for perfect nutrition.

#### **Physical Exercise.**

The lack of physical exercises is a cause of many of the ills that come to men and women. The physician should find out as nearly as he can how much muscular effort the patient makes each day. A few persons take too much exercise, and they should be taught the importance of rest. It should be remembered that what is too much exercise for one is too little for another. For instance, if a delicate woman should attempt to take the exercise that a strong man needs, who consumes an excess of food, she would break down completely. With the asthenic class of patients it is often advisable for them to rest in bed for 2 or 3 weeks before beginning exercise. The doctor should teach the patient the exercises which at the beginning of treatment can be taken without fatigue, and other lessons for developing the muscular system should be given as the patient improves. In many cases of atony of the stomach and intestines, associated with relaxed abdominal muscles, a great deal may be accomplished by teaching the patient the special exercises indicated.

Patients with digestive diseases, who get too little exercise, should be taught a system which brings into use every voluntary muscle of the body. A modification of the military "setting-up" exercises, which may be taken without apparatus in any room by an open window, should be taken for 10 or 15 minutes by the majority of normal men and women. The majority of people do not know how to take exercises, nor do they realize their importance and as our patients are restored to health, the physician or one of his assistants should instruct them regarding methods of keeping in health so that they will not have recurrences of their illnesses which caused them to seek medical advice.

#### **Curing Constipation By Educating the Patient.**

The rational treatment of constipation consists largely in educating the patient. All the purgatives in the drug stores will not cure constipation. Some of them may help



a little but the condition is relieved permanently only by teaching the patient some of the facts regarding the physiology of defecation. The patient usually will cure himself when he learns that the bowels act normally because once, or several times a day there is a sufficient amount of the waste products of digestion, fluid and gas, to distend the sigmoid flexure of the colon enough to cause an impulse to be sent from the nerve terminals in the intestinal wall to the defecation center in the spinal cord, and from there notice is sent to the brain that the sewer needs emptying. The patient should learn that the defecation center is very sensitive and if its warnings are not heeded, it soon will cease to send them and one has to resort to irritating laxatives and purgatives in order to arouse that stupid relay nervous station in the spinal cord. It should be stressed that a person should arrange his life so that he can have a movement of the bowels whenever the desire is felt. Much, however, may be done to train the defecation center to send the impulse to the brain at regular hours every day.

As a part of the treatment of constipation the patient is taught that meats and other animal proteins leave but little residue after digestion, and that a diet in which there is plenty of fruits and vegetables, is indicated because they provide sufficient bulk in the intestinal contents. An anti-constipation diet should be prescribed and the patient shown why it is necessary to eat or to avoid certain foods. Of course, it is necessary for the patient to take sufficient water to keep enough fluids in the intestinal tract to facilitate the free passage of food through the thirty feet of intestines. The patient with constipation should also be taught that abdominal as well as general exercises are an important adjunct in curing constipation.

#### Instructions in Ulcer Cases.

The patient has a right to exact information regarding the nature of his illness; and knowing the diagnosis he will be very apt to co-operate with his physician. For instance, after getting a history suggestive of ulcer, occult blood is found in the patient's feces,

and the x-ray shows filling defects in the pyloric end of the stomach or in the duodenum, a diagnosis of ulcer is made. When these facts are made known to the patient he is in a receptive frame of mind for instructions; and he will carry them out to the letter. In such a case the patient should be taught in simple language just what an ulcer of the stomach is, including its etiology and pathology, and the complications that may occur if he neglects treatment. He is then taught the diet in gastric ulcer and why each article of food is given. As he improves he is taught the quality and quantity of food that an ulcer case should eat for a year after a cure has been effected. The patient also should be informed of the nature of the medicines used in his case, of the indications for their use and their effects.

#### Teaching the Diabetic.

Educating the patient is the most important part of the treatment in diabetes. Brilliant results may be obtained when the diabetic is informed regarding food values and of what he should eat to live within his carbohydrate tolerance. He should be taught to examine his own urine, because when he himself finds sugar present after his urine has been free from it for some time, he will know when to reduce or leave off his carbohydrates. The Allen treatment of diabetes is a great advance in medicine. It does not, as a rule, immediately raise the patient's carbohydrate tolerance to the normal, but a cure is effected only by prolonged dieting after the starvation period. Joslin has written a book on "What the Patient Should Know About Diabetes," which may be studied to great advantage by the diabetic.

#### Text Books for the Patient.

The physician who undertakes to teach his patients should inform them what text books can be used to advantage as a part of the treatment. There are a number of books that have been written by physicians for lay readers which are expressed in non-technical language that are helpful to many patients. In my opinion the best of these is "How to Live," by Fisher and Fisk, of the Life Ex-

tension Institute, and I have had many of my patients use it as a text book, assigning one or more chapters for them to read each day until they have learned the facts applicable to their condition.

To the worrying patient the little book by Walton entitled "Why Worry," will prove helpful. "Self Helps for Nervous Women," by the younger Mitchell, may be read and reread with benefit by neurotic women. Weir Mitchell's "Doctor and Patient" gives the layman a viewpoint that is helpful in getting his co-operation.

"Religion and Medicine," which was used as a text book as a part of the "Emanuel" movement to offset the growth of the Christian Science church at the expense of other denominations, is an excellent book on psychotherapy which may teach intelligent men or women, particularly those who are religiously inclined, many facts that every person should know. To the business man whose efficiency is impaired by disturbances of the digestive organs due to unhygienic living, Gulick's book on "The Efficient Life" may be very helpful. The person who bolts his food should read Fletcher's "A. B. C. of Digestion."

There are many such books, none of them perfect, but some of them good, which the doctor may prescribe for his patients. It has been my custom to have the drug stores near my office keep on hand a few copies of the books which patients may read with benefit and as they are indicated. I write the name of the book on a prescription blank and let the patient understand that the careful and conscientious study of it is a part of the treatment as much as the medicines that are prescribed.

#### **Personal Instruction Appreciated.**

It takes time to educate the patient regarding the facts that he should know of the physiology, pathology, diet, nutrition, and general personal hygiene, that are applicable to his case; but hours spent in that endeavor will bring wonderful results in making permanent cures in gastro-intestinal cases. "A little learning is a dangerous thing" may be urged by the physician who has not tried the

method, but there is no likelihood of the patient's trying to prescribe his treatment for his friends because he is taught that a thorough examination is essential before any person can prescribe intelligent treatment.

Of course, a gastro-enterologist cannot give a full course on personal hygiene to each of his patients, but it is his duty to teach them the important facts regarding the functions of the stomach and intestines which have a bearing on each particular case. He can save time by making short talks to groups of patients and his assistants can help by teaching the exercises and the diet as indicated.

There is no longer any mystery about medicine, and the thinking patient of today wants to know the truth about himself. He also wants to know the effects of the medicine which he takes and of what he can do to co-operate with the doctor. In other words, he goes to the doctor not only for treatment but as a seeker of knowledge that he considers is of great importance to him. It is the doctor's duty to take the patient into his confidence. By doing so he enlists his assistance in bringing about a cure and he receives his everlasting gratitude for thorough and painstaking work.

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### **MUNICIPAL NARCOTIC DISPENSARIES.**

By S. Dana Hubbard,

New York City Department of Health.

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The Department of Health of the City of New York opened a dispensary for drug addicts on April 10, 1919, immediately following the arrest by internal revenue agents of certain physicians and druggists who had been supplying narcotic drugs. The reason for opening this "clinic," as it was called, was the fear of consequences that might result from the sudden shutting off of the source of supply of the many addicts who had been obtaining drugs from the arrested persons and from others in the same business who had suspended operations because of being frightened by these arrests.

Details of the operation of this "clinic," with classified statistics of the addicts attend-

ing it, have been published from time to time in the weekly bulletins of the department of health, and a full resume of the 10 months' period of operation appeared in the department's monthly bulletin for February, 1920.

In the present article, space does not permit a recapitulation, but only such a statement of facts as is necessary to make clear the basis for the conclusions reached.

The officials of the department at the date of opening the "clinic" were not familiar with the facts of drug addiction, and haste was considered imperative, so the plan adopted was more or less arbitrary. Cocain, heroin, morphin were dispensed on the day of opening in quantities not exceeding 15 grains. On the second day the dispensing of cocain was permanently discontinued, and heroin and morphin was thereafter the only drugs dispensed.

All applicants were examined by physicians of the department of health, and the drugs were dispensed only on prescriptions of these physicians. Duly licensed and registered pharmacists were in charge of the dispensing.

A policy of cutting down the daily supply at the rate of one-half grain every other day was early adopted, the reduction to continue until the minimum was reached which was considered necessary by the physicians to prevent undue suffering. This amount was found to be from 2 or 3 to 5 grains for the 24 hours.

The drugs were sold to the addicts at cost, no charge being made for the physician's services.

As soon as possible a hospital was opened for withdrawal treatment, and those willing to go were sent to this hospital—the Riverside Hospital at North Brother Island—a special staff of physicians and nurses being selected for this undertaking. Here the addicts were kept for from 5 to 6 weeks at the expense of the city; the drug was withdrawn during the first five days, and hyosein was administered for 3 days thereafter. Out of over 7,400 drug addicts attending the "clinic," less than 2,000 were willing to go to the hospital. A system of registration was adopted, and cards were issued bearing the name,

address, and other identifying particulars, together with a photograph of the addict and the official seal of the department of health. The addict was given a number, together with "dosage sheets," upon which was entered each day the amount and kind of drug received.

A study of the operation of the system outlined above has convinced the officials of the department that a dispensary in which narcotic drugs are given to addicts for self-administration is not the right way to deal with this problem, and by the time this article is printed, the New York "clinic" will have been permanently closed.

Among the facts observed were the following: Addicts often obtained more of the drug than they needed and sold the excess to other addicts and peddlers; addicts supplemented their supplies by purchase from peddlers; addicts got friends or relatives, who were not addicted, to register and attend the "clinic" in order to obtain additional supplies, and in some cases, it is stated, these friends became addicted in this way; prescriptions were forged or raised, dosage sheets were tampered with, false dosage sheets were manufactured and sold, registration cards were bought and sold, etc.

With but a very few possible exceptions, no cures are known to have been effected by means of the reduction system as used at this "clinic." So far as known, all cases sent to the hospital were cured, in the sense that the drug withdrawal left no physical need or craving; but quite a number of these cases relapsed after discharge, some returning to the "clinic" under assumed names.

The conclusions reached from observation of the practical working of the dispensary system are that the ambulatory treatment, whether practiced by private physicians or by public authorities, is vicious in principle and in effect; that the institutional withdrawal of the drug is so simple, easy, prompt, and effective—and comparatively without any danger, there not having been a single fatality—that there is no need for prolonging addiction by a continued supply of narcotics; that the average addict will not voluntarily submit to institutional or other with-



drawal treatment so long as he or she can obtain a supply of the drug, but will go to a hospital if unable to get more of the drug.

Some of the arguments that have been advanced in favor of dispensaries may be stated in the form of questions, and answered as follows:

**Does a dispensary help to get rid of peddlers?**

If a dispensary issues to all comers all the drug they desire, it may, by competition, put the peddlers out of business. In that case there would not be much to choose between the evil and the alleged remedy. If it does not supply the drugs ad libitum it encourages the traffic of peddlers by keeping up the demand.

**Does a dispensary tend to prevent petty crime by addicts?**

The answer is much the same as that to the previous question. A jeweler could prevent burglars from breaking into his store by opening it to them and asking them to help themselves to his stock. The surest and quickest way to prevent crimes arising from an addict's craving for his drug is to cure the addict and thus remove the craving.

**Does a dispensary gradually decrease the number of addicts?**

It tends to increase the number; reasons are clearly shown in the text how this is effected.

**Is a dispensary necessary to prevent death or terrible suffering of addicts bereft of supply of drug?**

Death does not result from sudden deprivation of the drug in the case of a healthy addict—an addict without any therapeutic reason for addiction, as a case of cancer, painful tic, etc., naturally not being included in our consideration, as all of these cases are under either suitable institutional or private physicians' care.

The suffering caused by the sudden deprivation is not as severe as it may appear on the surface, and it is of short duration.

If hospital facilities can be provided, there is no excuse for a public or private narcotic dispensary. If they cannot, it might be desirable to make arrangements for personal administration of drugs to addicts as a tem-

porary measure of relief. A dispensary where the drugs are dispensed to the addicts for self-administration is so harmful in its effects that it cannot be recommended under any circumstances.—From Reports of United States Public Health Service, March 26, 1920.

(Here is a statement based on large observation. It completely refutes some of the sentimental slobberings that have been widely indulged in about this important question.—Editor's Note.)

## CLINICAL REPORTS

### ENCEPHALITIS LETHARGICA.

By S. S. Crockett, M. D.,  
Nashville.

I beg to report two cases of lethargic encephalitis. These two young men were students at the Tennessee School for the Blind, and are both white.

Travis Nelson is a citizen of Henderson county; is 19 years of age, and lost the sight in both eyes several years ago from a gunshot wound that destroyed the balls of both eyes. He has been a student in this school since his injury. He had been perfectly well all that time except a mild attack of influenza in October, 1918. On Wednesday, February 25, 1920, he was taken to the sick room at the school, complaining of headache and dizziness. Examination showed pulse 100, temperature 103, respiration 24; very foul breath, heavily coated tongue, bowels and kidneys both acting freely. Following free purgation the following day he expressed himself as feeling much better. Saturday morning he was free of fever and seemed relieved. He was discharged from the sick room on Sunday morning and went to his classes Monday morning, March 1.

His teacher said that he did his class work as well as usual during the forenoon on Monday, March 1, but that at noon he said he was sick and asked to go to the sick room. In the afternoon I saw him, with no temperature elevation, respiration and pulse normal. He seemed stupid and dull, his lower jaw

dropping down while his temperature was taken; he had to be reminded several times to keep his lips closed; said nothing hurt him, volunteered no remarks; seemed to be asleep most of the time; answered questions with hesitation, though with apparent appreciation, at once lapsing into a quiet, undisturbed sleep. Physical examination was negative except for general but not very marked tenderness over lower abdomen. His sensation seemed normal to pin pricks but light objects seemed not to be recognized. When aroused his grip was strong in both hands, and he could move his lower extremities at will. Skin reflexes of abdomen and inner upper thighs energetic and prompt; patella reflex exaggerated, with a flexor plantar response.

On the night of March 1, after being taken to the City Hospital he got out of bed and said he wanted to go to the desk for something; seemed confused and was with a little difficulty persuaded to go back to bed. He did not talk in his sleep and apparently did not move except upon the occasion mentioned. Had difficulty in getting bowels moved at the City Hospital.

On March 2, his tongue deviated markedly to right side. Reflexes seemed less active and motor power, while present, seemed impaired. Involuntary evacuations of both bladder and bowels appeared. Seemed more stupid, but would take water and liquid nourishment when urged to do so, but never asked for anything.

Laboratory reports at the City Hospital showed no urinary abnormalities, 10,000 leukocytes. Blood and spinal fluid both negative, Wassermann negative. The spinal fluid showed no pressure upon withdrawal, a slight increase in cells, but no micro-organisms.

There was no change in his condition on March 8, when he was taken to the Woman's Hospital and placed in the same room with the second case that had in the meantime developed in the school. Laboratory reports at that institution were negative. On the 10th he got out of bed at night and went out in the corridor in a dazed, confused condi-

tion. On the night of the 11th he rang his bell and asked the nurse for the urinal, and from that time on rarely soiled the bed. Asked for more food and often asked the time of day. Continued to sleep most of the time up to March 18, when he asked the nurse her name, and from that time on his improvement was very gradual but progressive, until March 25, when he was thought well enough to be taken back to the school.

For a week after he reached the school he would on some days seem very drowsy and confused and have great difficulty in performing co-ordinated acts requiring any attention, such as dressing himself; on other days he seemed entirely himself. He continued to improve satisfactorily until April 16, on which date he was taken to his home.

He was ill fifty days and lost 23 pounds.

**Case 2.** Solomon Manaskin, a Jewish lad, aged 17, a citizen of Hamilton county, had been a pupil in the school for the past seven years, during which time he had never been on one suit filed had not, so far as we are in the sick room except for a slight attack of uncomplicated influenza in October, 1918, when that disease practically swept the school. There was not a single case of influenza in the school during the February prevalence of that disease in 1920.

This boy made his first complaint on March 1 of headache and dizziness. He presented a very coated tongue and foul breath, normal temperature and respiration, but a pulse that was close to 100 throughout his illness. His temperature was slightly above normal a few times. On the second day of his illness it was noticed that he slept a great deal and was aroused with some effort. On the third day he was very drowsy and showed no evidence of pain upon the pin prick anywhere on his body except the tip of his nose, his cheeks and the soles of his feet. He complained of no pain and seemed in no distress; when aroused he said he had no pain. His pupils were contracted during the early part of his illness, widely dilated later, at no time showing any pupillary reflex. He would swallow water and liquid nourishment with effort when aroused throughout his illness.

On March 8 he was taken to the Womans Hospital. Thorough laboratory investigation was made at that place of his blood, urine, feces and spinal fluid, with absolutely negative results. After a few days in the hospital he became very rigid all over and would not or could not move any part of his body; even his facial muscles seemed rigid and expressionless; he could not protrude his tongue or open his mouth; raising up his head by force brought his entire body up in an almost straight line. There was no retraction of his head, his fore-arms were flexed on his arms and the hands pronated, the fingers extended straight; his legs were slightly flexed on the thighs. Any of the extremities could be straightened out by slight force and with no evidence of pain. When he was placed on his back his legs and thighs could be brought out perfectly straight without pain and would remain in that position as long as he was on his back. He could not grip your hand and did not resist any movement. He did not utter any spoken word for twenty days—most of the time lying with his eyes closed, apparently asleep.

His reflexes varied greatly. The pupillary reflex seemed absent throughout. It should be stated that the defect in his vision upon which he was admitted to the school appears on the records as "amblyopia"—a condition in which the patient does not see much—and neither does his doctor. Fundal examination at the hospital revealed optic atrophy. Oculo-motor disturbance in any form was not made out. There was no deviation in his tongue when it could be protruded at all.

The skin reflexes on abdomen were present throughout, the cremasteric was rarely absent, the patella, while apparently exaggerated in the beginning, later was often entirely absent. His plantar reflex was always flexor.

He had bladder and bowel trouble throughout, the catheter being in constant service, and the bed often fouled. On the 18th he could open his eyes; the nurse established a system of signals with him. Closing his eyes meant "No" and opening his eyes meant "Yes." He was very soon using the urinal and the bed-pan, and could raise his arms and

protrude his tongue; the rigidity in his facial muscles and those of his jaws soon abated and he could open his mouth, and shortly afterwards was talking. He maintains that he knew everything that transpired while he was apparently unconscious. On the sixty-sixth day of his illness he was able to stand on his feet, leaning against the bed. He sat up in a chair three hours.

There has been no mental confusion whatever since he began to improve; he is bright, cheerful and comfortable mentally and physically.

He left the hospital on April 10, the thirty-eighth day, and went to his home on April 20. He perspired freely throughout his illness and lost twenty-three pounds.

These two boys, while both attending the same school and taken ill within three days of each other, were not previously thrown together. They were not in the same class, they did not eat at the same table, and did not sleep in the same building.

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#### INCARCERATED HERNIA INTO UMBILICAL CORD.

William J. Stanton, Washington, D. C. (Journal A. M. A., March 20, 1920), reports the case of a girl baby, weighing 8 pounds at birth, who presented a large tumor mass about the size of a fist, within the umbilical cord. Transillumination revealed coils of intestine. A diagnosis of hernia into the umbilical cord was made, and immediate operation was advised. This was at first refused, but next day the parents consented, and the author operated just twenty-four hours after the birth of the child. The wall of the sac consisted of amnion and peritoneum. The sac contained about 2 feet of large and small intestine. The appendix, though present, was not removed. The intestine was adherent over about half the surface of the sac. The intestine was beginning to show a dark reddish discoloration. An incision of the umbilical ring and abdominal wall above the cord was made. The intestine was replaced and the wound closed with three silkworm-gut inverted mattress sutures. The baby suffered little if any shock, and made an uneventful recovery.



# THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 327 7th Ave., N., Nashville, Tenn.

APRIL, 1920

## EDITORIALS

### OFFICERS FOR 1920-21.

President: Dr. L. L. Sheddan, Knoxville.

Vice-President: Dr. Geo. R. West, Chattanooga.

Vice-President: Dr. P. K. Lewis, Doyle.

Vice-President: Dr. J. J. Shea, Memphis.

Treasurer: Dr. J. F. Gallagher, Nashville.

Secretary-Editor: Dr. Olin West, Nashville.

Trustees of the Journal: Drs. J. F. Gallagher, Nashville; Hermon Hawkins, Jackson; C. J. Broyles, Johnson City.

Councilors: Drs. C. P. Fox, Greeneville; S. R. Miller, Knoxville; J. A. Hardin, Sweetwater; Z. L. Shipley, Cookeville; G. E. Horton, Shelbyville; W. C. Dixon, Nashville; M. A. Beasley, Hampshire; A. B. Dancey, Jackson; E. H. Baird, Dyersburg; W. T. Black, Memphis.

Delegates to American Medical Association: Drs. L. A. Yarbrough, Covington; E. T. Newell, Chattanooga. Alternates: Drs. J. B. Blue, Memphis; E. H. Baird, Dyersburg.

### THE CHATTANOOGA MEETING.

The annual meeting of the Tennessee State Medical Association at Chattanooga was a good meeting. There was a splendid attendance, the arrangements for the meeting were complete, the place of meeting was convenient, and the halls in which the various bodies were accommodated were well adapted for the purposes, the program was good and was not allowed to drag, and the entertainment provided was delightful.

The general attendance on the first day was very good, except for the men who were on the program for that day. Only two of the first twelve papers on the program were

read. It seems that every man on the program wants to appear on the second day of the meeting, and the tendency to put off attendance upon the annual meetings until the second day seems to be growing each year. There must be a first day and the program must have a beginning—and that's all there is to it.

There were a number of splendid scientific papers presented, some of them of unusual excellence.

The Section on Ophthalmology and Otolaryngology had a great program, but the attendance was not what it should have been.

The House of Delegates was well attended and transacted the business of the Association with dispatch. The Secretary's report showed that the membership for 1919 was the largest on record and the 1920 enrollment larger than ever before reported at any annual meeting. The Treasurer's report was a good one, showing a balance larger than for many years past. The Committee on Medical Defense presented a report which reflected an increasing interest on the part of the membership in this feature of the work of the Association. The report of the Councilors was much more complete than usual, but showed an unfortunate, not to say deplorable lack of vitality in a number of county societies. The report of the Committee on Hospitals was more comprehensive than any like report heretofore presented, and showed that a standing committee of the Tennessee State Medical Association can do something worth while if it tries.

The report of the Trustees of the Journal and that of the Secretary made it apparent that the dues of the Association must be increased or that publication of the Journal must be suspended. The cost of paper has more than doubled, the wages of printers have had to be largely increased, of course—because printers must live—and every item of cost in making the Journal has gone up. And, too, every item of expense, except the salaries of officers, incurred in conducting the business of the Association is larger than ever before. More money must be had or things must stop. With all this information before it, the House of Delegates increased the an-

nual dues to four dollars, this to go into effect on January 1, 1921. Even so, the dues will be much less than obtained in many other state organizations, several of which have dues of ten dollars a year.

The nursing situation came up for discussion in the House of Delegates and brought out the most brilliant speech of the occasion by Dr. W. P. McDonald, of Rhea county. This question also came up in the general session and, as in the House, action was taken referring the matter to the Committee on Hospitals with instructions to make a careful study of the whole subject and to report at the next annual meeting.

There were 245 members registered at the meeting and 48 counties were represented. East Tennessee was **there**. The attendance from West Tennessee was good when it remembered that the members from that section had a long way to go. The attendance from Middle Tennessee was disappointing. The absence of a large number of members who have never been known to miss an annual meeting for many years back was noted with general regret.

The local committee on arrangements overlooked nothing. This committee was on the job every minute of the time. The doctors of Chattanooga were exceedingly gracious in their many courtesies to the visiting members and Chattanooga itself was kind and hospitable. The banquet at the Country Club was a most pleasant occasion.

It was a good meeting. If you were not there you missed something worth while. We will expect you to be on hand in Nashville in April next.

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### OPEN TO YOU.

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The Journal of the Tennessee State Medical Association belongs to the members of the Association. Its columns are open—wide open—to any member for the purpose of presenting scientific medical discussions, for constructive criticisms or suggestions relative to the affairs of the Association, the interests of the medical profession, and the public welfare.

The secretary, who is also the editor of the Journal, has now been in service for six years. In all that time there has been no "ring politics," no "fenees," and no "favoritism" anywhere that he has ever been able to discover.

The Tennessee State Medical Association and the Journal are **yours** if you are a member, and are for your interests and for your use.

You owe something to the Association. You can help make a better Journal.

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### "OLD WHIT."

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No, he was not there. For the first time in many a year William Whitford, Official Stenographer for the Tennessee State Medical Association, and for a great many other medical organizations in these great United States, was not on hand when the president's gavel fell at Chattanooga. But it took the concerted efforts of more than 10,000 men to keep him away from his post of duty. The great railroad strike which destroyed train schedules kept Mr. Whitford from the Chattanooga meeting and his absence was noted and regretted by every man who was present and who has, through attendance on other annual meetings, come to look on him as an essential part of our society.

We doubt that there has ever been a man who has rendered more valuable service to organized medicine in this country than our old friend—"Old Whit," as he is affectionately known by hundreds of Tennessee doctors.

Capable, conscientious, courteous, considerate, prompt, thorough—all these descriptive may be applied to the man and his work.

"Old Whit"! Long may he wave!

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### MEETING OF WEST TENNESSEE SOCIETY.

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The West Tennessee Medical and Surgical Association will meet in annual session at Jackson on Thursday, May 20, for two days. Dr. I. A. McSwain, Paris, is the Secretary of this society and communications relative to the program should be sent to him.

## MEETING OF MIDDLE TENNESSEE SOCIETY.

The Middle Tennessee Medical Association will meet in annual session at Centreville on May 20-21. Dr. Milton Tharp, 207 Seventh Avenue, North, Nashville, is Secretary. The program is now being arranged.

## ANNUAL EXAMINATIONS—STATE BOARD OF MEDICAL EXAMINERS.

The Tennessee State Board of Medical Examiners will conduct examinations on June 11 and 12 at Memphis, Nashville and Knoxville. All who expect to apply for license to practice medicine in Tennessee should communicate with Dr. A. B. DeLoach, Secretary, whose address is Exchange Building, Memphis.

Dr. Ambrose McCoy, Jackson; Dr. W. L. McCreary, Knoxville; Dr. C. A. Abernathy, Pulaski; Dr. B. L. Simmons, Nashville; and Dr. Nat T. Dulaney, Bristol are the other members of the State Board of Medical Examiners, Dr. McCoy being President and Dr. McCreary Vice-President.

## AMENDMENTS TO CONSTITUTION.

The following proposed amendments to the constitution and by-laws of the Tennessee State Medical Association were offered at the annual meeting at Chattanooga. Final action will be taken by the House of Delegates at the next annual meeting:

Be it resolved, that Section 1, Article 8, of the Constitution of the Tennessee State Medical Association be so amended as to read as follows: "The officers of this Association shall be a President, Speaker of the House of Delegates, three Vice-Presidents, a Secretary, a Treasurer, three Trustees of the Journal, and ten Councilors, one of whom shall be from each Congressional district of the State."

That Paragraph 3 of Section II be so amended to read as follows: "The President, Secretary and Speaker of the House of Delegates shall be members of the Council, ex officio, and any five Councilors shall constitute a quorum."

That Chapter 6, Section I of By-Laws be so amended as to strike out the words "and of the House of Delegates."

That Chapter 6 of the By-Laws be amended by adding thereto the following:

"Section 5. It shall be the duty of the Speaker of the House of Delegates to preside at all meetings of the House of Delegates and to exercise all the powers and perform all the duties heretofore devolving upon the President of the Association when presiding over the House of Delegates."

The following amendments to the Constitution and By-Laws of the Tennessee State Medical Association are hereby offered as provided by Article XIII of the Constitution:

Article VIII, Section 3.—After "except the Treasurer" add "and the Councilors" after "and no person" add "except the Trustees and Councilors." At the end of the section add: "The Councilors shall be elected on the second day of the annual session. Nominations shall be made by any member of the House of Delegates, and election may be by acclamation."

### BY-LAWS.

Chapter II, Section 1.—Strike out "second" and substitute "first."

Chapter V, Section 1.—After "all elections" add "except the Councilors." At the end of section add "except the Councilors."

Chapter V, Section 3.—After "election or officers" add "except the Councilors." At the end of the section add: "The five Councilors shall be elected for two years on the second day of the annual session, and if practicable immediately following the Councilors' reports."

Chapter VII, Section 1.—Strike out "daily" after "it shall meet." Strike out "on the last day of the annual session of the Association." After after the "election of Councilors," "on the second day."

## WHY THE SHORTAGE OF STUDENT NURSES?

The New York Department of Health recently made a survey of training schools for nurses. Seventy-two hospitals replied to the questionnaire that was sent out.

One question was as follows: "What, in your opinion, is the principal reason for falling off in applicants for nurses' training?" The answers to this question were varied. "Increased vocations for women, 10; better commercial prospects, 15; term of training too long, 6; severe requirements, 11; low pay, 27; long hours, 22; labor conditions, 9; educational requirements, 9."



In the seventy-two hospitals represented in the answers the average term of training is 29 months, 26 days.

There seem to be those who feel that they know, just off hand, what the reason is for the shortage of nurses in training, but the survey made by the New York City Health Department seems to indicate that this is a complex problem. It is quite probable, too, that when the real facts are secured that here in Tennessee some factors will be found which do not play much part in the situation elsewhere.

The nursing supply problem is a most important one which will have to be very carefully studied before the solution can be effected.

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#### **AMERICAN PUBLIC HEALTH ASSOCIATION TO CELEBRATE FIFTIETH ANNIVERSARY.**

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Next year the American Public Health Association will conduct its 50th annual meeting. An interesting circumstance is that Dr. Stephen Smith, the founder and first president of the association, will at that time be approaching his 99th birthday. Dr. Smith is still hale and hearty and possesses his faculties to a remarkable degree. It is his intention to read a paper at the meeting referred to. His vigor at a ripe old age exemplifies the results of sane living.

The American Health Association was founded at New York City in 1872. Until a few years ago it remained a strictly scientific body, somewhat on the order of the royal societies of Europe. More recently the membership has been broadened so that those may join who have a more general interest in public health, including such workers as health officers, laboratory men, school medical inspectors, industrial hygienists, public health nurses, physicians interested in preventive medicine, etc.

Dr. Olin West, Nashville, is chairman of the committee on membership for the State of Tennessee. Those interested in the objects of the association are invited to correspond with him.

Members of the Association receive the American Journal of Public Health and the A. P. H. A. News Letter monthly, together with the customary association advantages. Dues are \$5 per year.

The American Public Health Association stands as an honored institution which during the years has been tremendously influential in bringing the new methods of public health into use. Certainly no health worker can afford not to be a member, or to miss its publications.

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#### **REPORT OF COMMITTEE ON MEDICAL DEFENSE.**

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To the House of Delegates, Tennessee State Medical Association—Mr. President and Gentlemen:

Your committee on Medical Defense begs to submit this, the sixth annual report:

The Medical Defense fees were paid in 1919 by 937 members, which was 87 more than had paid in any previous year. To April 1 this year, 986 have already paid—a gain of 49 over the entire twelve months of last year.

A detailed report of each county is set forth in Exhibit A, herewith submitted.

A year ago we reported nine suits at issue. Another suit in which a non-suit had been taken was revived—this making ten suits from former years. Since our last report, suits have fallen thick and fast on the heads, or perhaps we should say, upon the hearts, of our members, and upon the treasury of this committee. Sixteen suits have been referred to your committee, and fourteen were accepted for defense. One was refused for non-payment of Medical Defense fee, and one because it was complicated with federal and state criminal laws. Thus, you see, we have had at least twenty-six cases since our last report.

We have won four suits, and one took a non-suit, and can be revived within the twelve months statutory time. One of the above four was won in the supreme court.

We have at this time twenty-one cases not settled, so far as reports show. Subpoena

informed, been served on the defendant, when he was demobilized from the U. S. Army Medical Corps, after more than a year's service. It is believed that several of these cases will not come to trial, and we hope for ultimate success in all that may be tried.

Notice was sent to all county secretaries asking for consideration and action on the resolution adopted last year, by the House of Delegates, asking each county society, by amendment of by-laws, or by resolution, to to bind the society for the payment of the Medical Defense fee with the state dues of each member in good standing. Report has been made to this committee by only a few. Those few have usually been in the affirmative, but some in the negative.

The Loudon County Medical Society has passed a resolution, and referred same to this committee, with a request that it be introduced in the House of Delegates. We wish hereby to present the resolution as follows:

Be it resolved, That the State Committee on Medical Defense be requested to introduce a resolution at the next meeting of the State Society, to amend the rules and by-laws of the organization so that in case of a charge of malpractice be brought against one of our members, that the organization employ, not only attorneys to defend such a charge, but in case of a recovery, that an amount of not exceeding three thousand dollars (\$3,000) be paid by the organization. Such an amount could be created by an initiation fee sufficient to raise this amount, which could be kept as a fund ready to meet such demands promptly as may be presented against the organization, and when any amount should be paid from the treasury, an assessment could be made against the members sufficient to cover the amount withdrawn.

Be it further resolved, that a copy of this resolution be recorded on our Secretary's records, and a copy by mailed to the Committee on Medical Defense for the State Medical Association.

Respectfully submitted,

J. T. LEEPER,  
J. G. EBLEN,  
H. A. P. HARRISON,  
Committee.

This resolution is for your consideration, but this committee does not believe it wise to undertake this departure at this time. Our counsels' fees have drawn heavily on our treasury in the last year, and if the treasurer's balance is divided by the number of suits

at issue, you will see that the pro-rata for each is small, and additional expense of general counsel, and expenses of minor character must be paid from the Medical Defense Fund.

S. R. MILLER.  
JERE L. CROOK.  
H. M. TIGERT.

People's Savings Bank, Jackson, Tenn., April 5, 1920.

This is to certify that Dr. J. L. Crook has on deposit as Treasurer \$1,877.18 with this bank.

CARL WILLIAMS,  
Assistant Cashier.

EXHIBIT A.

List of Counties, Number Paying for Medical Defense.

	1919	1920
Anderson County -----	11	11
Bedford County -----	12	12
Blount County -----	10	18
Bradley County -----	--	16
Campbell County -----	3	9
Carroll County -----	5	--
Chester County -----	--	4
Cocke County -----	--	3
Coffee County -----	3	--
Crockett County -----	--	--
Cumberland County -----	2	3
Davidson County -----	181	117
Dickson County -----	8	9
Dyer County -----	29	22
Fayette County -----	--	--
Franklin County -----	6	7
Gibson County -----	17	20
Giles County -----	9	2
Greene County -----	5	24
Grundy County -----	4	6
Hamblen County -----	13	16
Hamilton County -----	69	82
Hardeman County -----	--	--
Henderson County -----	5	10
Henry County -----	4	--
Hickman County -----	1	13
Jackson County -----	8	7
Jefferson County -----	8	12
Knox County -----	99	116
Lake County -----	--	1
Lauderdale County -----	26	26
Lincoln County -----	7	14
Loudon County -----	5	8
Decatur County -----	--	--
McMinn County -----	--	4
Macon County -----	7	7
McNairy County -----	8	14
Madison County -----	28	30
Marshall County -----	10	9
Maury County -----	3	32

Monroe County -----	14	13
Montgomery County -----	10	10
Obion County -----	7	4
Overton County -----	8	6
Polk County -----	--	10
Putnam County -----	11	14
Rhea County -----	3	1
Roane County -----	11	13
Robertson County -----	5	--
Rutherford County -----	2	5
Scott County -----	6	3
Sevier County -----	--	--
Shelby County -----	168	106
Smith County -----	1	7
Stewart County -----	--	--
Sullivan-Carter-Johnson Counties--	--	--
Sumner County -----	10	16
Tipton County -----	21	25
Unicoi County -----	--	--
Warren County -----	2	3
Washington County -----	12	23
Weakley County -----	12	14
White County -----	15	13
Williamson County -----	8	7
Wilson County -----	4	2
Morgan County -----	--	3
Totals -----	937	986

REPORT OF COMMITTEE ON  
HOSPITALS.

Your committee on hospitals, in making this report, desires to call your attention to the fact that it is not complete, and only represents twenty-six of the hospitals of our state. Such institutions as the Blind Girls' Home, Florence Crittenden Home, Tennessee Industrial School, and various orphanages of our state, where sick people are found, we do not consider as hospitals and they have not been included in our list.

At the time the chairman received notice that a report was expected on the condition of some of our hospitals, having serious sickness, and death, in my family, and my stenographer being also away on account of sickness, after conferring with other members of the committee, I determined to make some kind of a report. I was forced to call to my assistance a patient from our wards—a case of dementia praecox, who we are trying to re-educate, and who is learning shorthand, without a teacher—and dictated to him the following questions and had him send a let-

ter of inquiry to about forty physicians and surgeons in Tennessee—from Bristol to Memphis—enclosing a stamped envelope for reply. The questions were as follows:

Name of hospital? Location? Is hospital under control of medical superintendent, medical staff, or other management? Were buildings constructed for hospital, or converted? How heated? Total number of beds? Number of ward beds? Number of private rooms? Are charity patients admitted? If so, about what number? Is training school for nurses maintained? If so, what is average number of nurses in training? How many years are required for graduation? If no training school, how is nursing service provided?

Laboratories: X-ray? Bacteriological? Pathological? Equipment of each?

Are case histories taken and preserved? What are facilities for post mortem? If under staff control, what special lines of work are represented on attending staff? What are some of the weak points in hospital management? What do you suggest to improve the service? Should, or should not, state hospitals have as good equipment and as efficient service as general hospitals?

We only received replies from twenty-six hospitals, and the replies are given as received:

Total number of hospitals sending reports, from Bristol to Memphis----	26
Number private hospitals reporting--	16
Number general hospitals reporting--	10— 26
Total number beds in 26 hospitals--	4665
Greatest number beds in one hospital	938
Smallest number beds in one hospital--	10
Number hospitals having less than 30 beds -----	3
Management of Hospitals:	
Number under medical superintendent	6
Number under medical superintendent and medical staff -----	5
Number under board of directors and staff -----	2
Number under board of trustees----	1
Number under private ownership----	1
Number under head nurse and business manager -----	2
Number under board of trustees and Superintendent -----	2
Number under Catholic Church ----	2
Number under State Board of Administration and superintendent ----	3
Number under other management ---	1
Number unknown -----	1— 26
Number specially constructed for hospitals -----	22
Number converted -----	4— 26
Number heated with steam -----	18
Number heated with hot water-----	4



Number heated with hot air furnace and grates -----	1
Number heated with hot air furnace -----	2
Number heated with hot air furnace and steam -----	1— 26
Number admitting charity patients -----	20
Number not admitting charity patients -----	6— 26
Number maintaining training school for nurses -----	23
Number employing hired attendants and nurses -----	3— 26
Average yearly number nurses in training -----	497
Average number patients to each nurse -----	5
Average number patients to attendants, state hospitals -----	15 to 20
Number hospitals requiring three years in training -----	17
Number hospitals requiring two years in training -----	5
No. hospitals requiring no set time -----	1— 23
Number hospitals equipped with x-ray -----	21
Number hospitals equipped for bacteriological work -----	14
Number hospital equipped for pathological work -----	16
Number hospitals using radium -----	2
Number hospitals with full laboratory equipment -----	12
Number hospitals preserving case histories -----	24
Number hospitals with facilities for post mortem -----	6

#### Some of the Weak Points Suggested in Hospital Management.

Lack of sufficient funds; lack of occupational therapy; lack of isolation wards; poor collection; scarcity of nurses in training; inefficiency of staff; lack of co-operation of the several departments; petty jealousy; lack of system and difficulty in obtaining nurses; improper buying of supplies; low standard of literary qualifications in nurses; lack of staff organization; lack of space; lack of supervision of staff. Three hospitals reported "no answer" in the affirmative where answered at

#### Some of the Suggestions for Improvement of Service.

Uniform prices; teaching the public the value of hospitals; co-operation of staff; new hospital; new management; regular weekly meeting of staff and full discussion of all unusual and interesting cases; better pay for attendants and increased per capita in our state hospitals.

The question as to whether state hospitals should be as well equipped as other hospitals were all. Respectfully submitted.

Respectfully submitted,

W. SCOTT FARMER, Chairman;  
JERE L. CROOK,  
ROBERT CALDWELL,  
E. T. NEWELL, Committee.

## REPORT OF SECRETARY-EDITOR FOR 1919-20.

To the House of Delegates, Tennessee State Medical Association:

It is with much pleasure that we are able to report to this, the eighty-seventh annual meeting of the Tennessee State Medical Association, that the enrollment of members for the year just ended was the largest in the history of our society. Sixteen hundred and twenty-one names of Tennessee physicians are embraced in our membership, a gain of forty-four over the preceding year and a gain of two over the largest previous enrollment.

Sixty-nine counties are organized as component units of the Association, while twenty-seven counties in the state are without medical societies. The organized counties are Anderson, Bedford, Blount, Bradley, Campbell, Carroll, Chester, Cocke, Coffee, Crockett, Cumberland, Davidson, Decatur, Dickson, Dyer, Fayette, Franklin, Gibson, Giles, Greene, Grundy, Hardin, Hawkins, Hamblen, Hamilton, Hardeman, Haywood, Henderson, Henry, Hickman, Jackson, Jefferson, Knox, Lake, Lauderdale, Lincoln, Loudon, Macon, Madison, Marshall, Maury, McMinn, McNairy, Monroe, Montgomery, Morgan, Obion, Overton, Polk, Putnam, Rhea, Roane, Rutherford, Robertson, Sevier, Scott, Shelby, Smith, Sumner, Sullivan-Carter-Johnson, Tipton, Warren, Washington, Weakley, White, Williamson and Wilson.

The unorganized counties are Benton, Bledsoe, Cannon, Cheatham, Claiborne, Clay, DeKalb, Fentress, Grainger, Hancock, Houston, Humphreys, Lawrence, Lewis, Marion, Meigs, Moore, Perry, Pickett, Sequatchie, Stewart, Tronsdale, Unicoi, Van Buren and Wayne.

Morgan County has recently come into the Association, and Bradley County, after a year's inactivity, has reorganized and is now an affiliated county.

Of the twenty-five unorganized counties, it is probable that not more than ten of them could effect and maintain medical organization.

The following named counties showed gains in membership during the year covered by

this report: Anderson, Campbell, Davidson, Dyer, Hawkins, Henderson, Henry, Hickman, Jackson, Knox, Lauderdale, Lincoln, Loudon, Maeon, Madison, Maury, McMinn, Monroe, Montgomery, Obion, Rhea, Robertson, Scott, Shelby, Smith, Tipton, Warren, White and Williamson.

The counties which lost in members in 1919 are as follows: Blount, Carroll, Chester, Coeke, Coffee, Decatur, Dickson, Fayette, Franklin, Gibson, Giles, Grundy, Hamilton, Jefferson, Lake, Marshall, McNairy, Overton, Putnam, Robertson, Sevier, Sumner, Sullivan, Washington, Weakley.

The following named counties enrolled an equal number of members in 1919 and in the year preceding: Bedford, Crockett, Cumberland, Greene, Hardin, Hamblen, Hardeman, Polk, Roane and Wilson.

Unfortunately, the fact that gains have been recorded in some counties does not indicate that any real advance has been made in strengthening medical organization, except in very few instances; nor does the fact that losses have been recorded in other counties indicate that the societies in all those counties have become any less active than in former years. The plain truth is that too many of the gains are more apparent than real, because they have been made by enrolling members who have allowed their membership to lapse and have then rejoined; and losses, for the most part, are due to the indifference of physicians who show, spasmodically, an interest and then a lack of interest in medical organization. Every year a relatively large number of our members allow their names to disappear from the society roll, only to come back in for a year or two. It is surprising, amusing and somewhat disgusting to note how the interest of some men is suddenly stimulated in their respective societies when opportunity offers for them to secure appointments as medical examiners for insurance companies, or when they find it desirable to secure reciprocity with other states, or when, in some other way, the privileges of membership will make it possible for them to secure personal advantages of one sort or another.

There are entirely too many names of physicians on our roll who are members in name only.

Many matters which might be discussed with more or less propriety in this report will be brought to your attention and submitted for your consideration by the various committees which will submit reports to the House of Delegates.

The Journal has had a hard year. There have been several months when the editor did not know where he would secure the material necessary to make the Journal until within a few days of the time when the copy had to be in the hands of the printers. This fact, coupled with the further fact that our printers, along with all others of their craft, have had great difficulty in securing labor and supplies, has made it impossible to get the Journal out on time each month. The members of this Association can easily contribute material of a high standard which will make the Journal of the Tennessee State Medical Association a most creditable institution. It is very certain, however, that if the Journal is to be worth while, the subject matter to make it so must come from our members. If promises could make it, the Journal of the Tennessee State Medical Association would be without an equal in the realms of medical publication, for the editor has been promised enough material to make many large books. Experience has demonstrated, though, that unredeemed promises have little effect in filling space. It is, to use a homely phrase, "strictly up to" the members of this Association as to whether or not they want a Journal that will be in any way creditable, or whether they will be content to have it run along as it now is, or whether they prefer to discontinue publication altogether. The present editor has done his best, and if the lack of improvement in the Journal is due to any weakness on his part he should be relieved at this meeting and some other assigned to the task.

More complaints have been received of failure to get the Journal during the last year than ever before. It is desired to record here the fact that failure in delivery of the Journal to every member of the Associa-

tion every month is in no way the fault of the office of the Association. The mailing list is carefully revised and checked each month, and every possible effort is made to see to it that a copy of the Journal properly addressed is put into the mails each month for every member.

The high cost of paper and the high wage scale now in effect for labor in the printing industry will make the cost of the Journal in the coming year considerably higher than ever before. It has been impossible to secure bids for printing for 1920, but the Trustees of the Journal will make the best possible arrangement.

The Treasurer's report will show that the advertising income of the Journal for the year was \$2,588.10, an increase of \$192.18 over the income from this source for the preceding year. Miscellaneous receipts were \$42.86.

The receipts from membership dues and medical defense assessments remitted to the Secretary were \$4,537. Of this amount the sum of \$882 was for medical defense and was forwarded to the Chairman of the Medical Defense Committee by Treasurer's checks.

The business of the Association is conducted almost entirely by the Secretary. Foreseeing the probable increased cost of operations in the coming year, a most earnest effort has been made to accumulate a larger balance of funds than has accrued in former years, and this has been accomplished, as will be seen from the report of the Treasurer. It is practically certain, however, that this increased balance will be more than used up in paying the greater cost of issuing the Journal and in a necessary increase in the salary of clerical assistance in the Secretary's office.

It is extremely gratifying that we are able to report that the enrollment of members for the year 1920 is considerably larger than ever before at a corresponding time. There are now on our roll the names of thirteen hundred and forty-six members, sixty-two more than were ever enrolled for any year at the time of an annual meeting. It is to be hoped that this indicates a reawakened interest in our old and well-loved society and in those things for which it stands.

It is with gratitude that your Secretary would record here a statement of the courtesies and kindly help he has received from officers of the Association, from County Secretaries, and from individual members who have responded to his appeals. Acknowledgment is also gratefully made to Mrs. Hamilton, Assistant to the Secretary, for her splendid, loyal service in behalf of the Association.

The Co-operative Medical Advertising Bureau of the American Medical Association has secured the bulk of the advertising that has appeared in the Journal, and has thereby rendered most excellent service. Extreme care is taken to exclude from the pages of the Journal any advertising which has not full right to appear in an ethical medical publication. We are quite proud of the fact that we sincerely believe that any member of this Association can patronize any concern whose advertising appears in the Journal with full assurance that he will receive a "square deal" and that he can secure from our advertisers the very best quality in the merchandise or in the service which he may buy from them. We do not believe, however, that our members patronize our advertisers to the extent which in all fairness they should do, and wish to again appeal to them to "buy from our advertisers." In so doing, they will help themselves and help the Journal.

The splendid arrangements made for this meeting were made by the Committee on Arrangements of the Chattanooga Academy of Medicine and Hamilton County Medical Society, composed of Drs. J. C. Brooks, J. B. Haskins, G. V. Williams, H. L. Faneher and Raymond Wallace, and with the help of Dr. H. P. Larimore, the efficient Secretary of the local society.

OLIN WEST, Secretary.

April 6, 1920.

#### TREASURER'S REPORT.

1919-1920.

Balance on hand April 1, 1919	-----	\$1,841.03
Total deposits	-----	7,190.26
Total	-----	\$9,031.29
Canceled checks returned	-----	6,037.49
Apparent balance	-----	\$2,993.80



Deduct outstanding checks Nos. 375, 388, 391, 393, 394, 396, 397-----	405.70
Actual balance -----	\$2,588.10

## RECEIPTS.

Miscellaneous receipts -----	\$ 42.86
Advertising receipts -----	2,610.40
Membership receipts -----	4,537.00
Total receipts -----	\$7,190.26

## DISBURSEMENTS, 1920.

## April.

1. Dr. S. R. Miller, Medical Defense----	\$ 9.00
1. E. S. Shannon, postmaster, stamps--	5.00
2. Dr. S. R. Miller, Medical Defense---	2.00
1. Ebb Lee, delivery of Journals, two months -----	2.00
4. Dr. S. R. Miller, Medical Defense---	1.00
5. Dr. S. R. Miller, Medical Defense---	4.00
10. Dr. A. P. Smythe, overpay-----	.50
10. Dr. R. L. Dossett, overpay -----	3.00
10. Dr. E. L. Bishop, for telephone bill--	6.10
15. E. S. Shannon, postmaster, stamps ---	5.00
15. Alice Knight, half of April salary---	30.00
15. Dr. S. R. Miller, Medical Defense---	29.00
16. Dr. S. R. Miller, Medical Defense---	1.00
18. Dr. S. R. Miller, Medical Defense---	1.00
22. Dr. S. R. Miller, Medical Defense---	15.00
23. Dr. S. R. Miller, Medical Defense---	1.00
25. Alice Knight, part of April salary---	10.00
9. Alice Knight, remainder April salary	20.00

## May.

1. E. S. Shannon, postmaster, stamps---	6.00
1. Rich Printing Co., 500 programs, \$62.25; Journals, \$210.00; postage, \$6.00 -----	278.25
1. Dr. S. R. Miller, Medical Defense---	10.00
5. Miss Grace Dawson, reporting and transcribing minutes of first session of House of Delegates -----	2.00
5. W. Otho Beall, official services at an- nual meeting -----	127.15
6. Ebb Lee, delivery of Journals-----	1.00
6. Dr. S. R. Miller, Medical Defense---	2.00
7. Dr. S. R. Miller, Medical Defense---	3.00
9. Dr. B. S. Penn, overpay -----	.50
10. Alice Knight, part of May salary---	10.00
12. E. S. Shannon, postmaster, stamps---	5.00
12. Dr. S. R. Miller, Medical Defense---	1.00
16. Alice Knight, part of May salary---	20.00
19. Y. M. C. A., use of Wilson Auditorium	90.00
19. Wm. Whitford, official services -----	166.82
19. Ambrose Printing Co., stationery---	2.75
20. Dr. S. R. Miller, Medical Defense---	1.00
21. Dr. S. R. Miller, Medical Defense---	3.00
29. Alice Knight, remainder May salary--	30.00
30. McEwen's Steam Laundry -----	1.54
31. Dr. Olin West, on salary -----	150.00

31. E. S. Shannon, postmaster, stamps---	5.00
31. Dr. S. R. Miller, Medical Defense---	1.00

## June.

2. Dr. E. L. Bishop, telephone bill----	8.00
2. Dr. S. R. Miller, Medical Defense----	2.00
5. Dr. S. R. Miller, Medical Defense---	1.00
5. Rich Printing Co., May Journals and postage -----	219.90
10. Ebb Lee, delivery of Journals -----	1.00
10. Cumberland Telephone Co. -----	11.84
12. Alice Knight, half of June salary---	30.00
13. Dr. S. R. Miller, Medical Defense---	3.00
13. Dr. S. R. Miller, Medical Defense---	1.00
17. M. C. Lowery, office rent, one month	15.00
20. Alice Knight, part of June salary ---	10.00
23. E. S. Shannon, postmaster, stamps---	5.00
25. Dr. S. R. Miller, Medical Defense---	2.00
25. Dr. E. T. Newell, expenses to A. M. A.	100.00
30. Eugene Turnstill, janitor services for six weeks -----	6.00
30. Rich Printing Co., Journals and post- age -----	215.32
30. Alice Knight, remainder June salary	20.00

## July.

2. Dr. S. R. Miller, Medical Defense---	2.00
2. Ebb Lee, delivery of Journals -----	1.00
3. Dr. S. R. Miller, Medical Defense---	1.00
7. Dr. Olin West, on salary -----	75.00
9. Cumberland Telephone Co. -----	8.45
14. Alice Knight, half of July salary----	30.00
15. Dr. S. R. Miller, Medical Defense---	2.00
16. M. C. Lowery, office rent, one month	15.00
26. Dr. S. R. Miller, Medical Defense---	5.00
26. Alice Knight, on July salary -----	10.00
28. Rich Printing Co., Journals and post- age -----	216.00

## August.

1. E. S. Shannon, postmaster, stamps---	5.00
1. Eugene Turnstill, janitor services---	5.00
1. Alice Knight, remainder July salary--	20.00
5. Cumberland Telephone Co. -----	8.98
5. Dr. S. R. Miller, Medical Defense---	2.00
5. Ebb Lee, delivery of July Journals---	1.00
11. Dr. S. R. Miller, Medical Defense---	1.00
14. Ambrose Printing Co., 5M. envelopes, 1 quart ink, oil and typewriter brush, box carbons, legal cap paper--	16.20
14. Marshall & Bruce Co., 1 200-pp. rec- ord -----	2.50
16. M. S. Lowery, office rent, one month	15.00
26. Dr. S. R. Miller, Medical Defense---	2.00
29. Dr. Olin West, Secretary, on salary--	75.00
29. Dr. S. R. Miller, Medical Defense---	2.00
30. Rich Printing Co., Journals, \$210, postage, \$10-----	220.00
30. Dr. S. R. Miller, Medical Defense---	1.00

## Sept.

2. Ebb Lee, delivery of August Journals	1.00
2. E. S. Shannon, postmaster, stamps---	5.00
2. Mrs. Hamilton, salary for August---	60.00

8. Cumberland Telephone Co. -----	8.00	7. Cumberland Tel. & Tel. Co.-----	8.00
18. Dr. S. R. Miller, Medical Defense---	2.00	8. Dr. S. R. Miller, Medical Defense---	78.00
19. Dr. S. R. Miller, Medical Defense---	1.00	8. E. S. Shannon, postmaster, stamps---	10.00
26. M. C. Lowery, office rent, one month	15.00	9. Dr. S. R. Miller, Medical Defense---	70.00
30. Mrs. Hamilton, salary for September-	60.00	10. Dr. Olin West, Secretary, on salary--	100.00
October.			
2. Cumberland Telephone Co. -----	8.00	14. Dr. S. R. Miller, Medical Defense---	53.00
6. E. S. Shannon, postmaster, stamps---	5.00	15. Dr. S. R. Miller, Medical Defense---	16.00
6. Rich Printing Co., Journals \$210,		17. Dr. S. R. Miller, Medical Defense---	65.00
postage \$6-----	216.00	20. E. S. Shannon, postmaster, stamps---	5.00
7. Atlantic Ice Corporation, ice from		20. Dr. S. R. Miller, Medical Defense---	9.00
May to October -----	9.17	21. M. C. Lowery, office rent, one month	15.00
8. Ebb Lee, delivery September Journals	1.00	21. Dr. S. R. Miller, Medical Defense---	6.00
10. Dr. Olin West, Secretary, on salary--	125.00	24. Dr. S. R. Miller, Medical Defense---	7.00
10. Henry Bell, janitor services-----	5.00	27. Ebb Lee, delivery of January Journals	1.00
16. Dr. S. R. Miller, Medical Defense---	1.00	27. Dr. S. R. Miller, Medical Defense---	22.00
22. Dr. Olin West, Secretary, on salary--	75.00	30. Rich Printing Co., Journals \$210,	
23. M. C. Lowery, office rent, one month-	15.00	1 zinc etching \$5.25, 1 half-tone--	226.50
November.			
3. Mrs. Hamilton, salary for October--	60.00	30. E. S. Shannon, postmaster, stamps--	5.00
3. Cumberland Tel. & Tel. Co. -----	8.00	February.	
4. Ambrose Printing Co., 2M. letter		2. Dr. J. F. Gallagher, honorarium----	100.00
heads, Castle Bond and seconds, and		2. Mrs. Hamilton, salary for aJanuary--	60.00
three stenographic books -----	9.15	3. Cumberland Tel. & Tel. Co.-----	8.00
4. E. S. Shannon, postmaster, tsamps---	5.00	3. Dr. R. S. Miller, Medical Defense---	21.00
7. Rich Printing Co., Journals \$210, two		4. Underwood Typewriter Co., repairs on	
half-tone cuts \$9.37, postage \$8---	227.37	typewriter -----	16.00
7. Ebb Lee, delivery October Journals--	1.00	5. Dr. S. R. Miller, Medical Defense---	15.00
12. Dr. S. R. Miller, Medical Defense---	1.00	10. Dr. S. R. Miller, Medical Defense---	11.00
17. Dr. S. R. Miller, Medical Defense---	1.00	11. E. S. Shannon, postmaster, stamps---	5.00
17. Dr. Olin West, Secretary, on salary--	80.00	12. Dr. Olin West, Secretary, on salary--	50.00
19. M. C. Lowery, office rent, one month	15.00	13. Ebb Lee, delivery February Journals	1.00
25. Dr. S. R. Miller, Medical Defense---	1.00	16. M. C. Lowery, office rent, one month	15.00
25. Ebb Lee, delivery November Journals	1.00	16. Dr. S. R. Miller, Medical Defense---	34.00
December.			
2. Cumberland Tel. & Tel. Co. -----	8.00	18. Dr. S. R. Miller, Medical Defense---	35.00
2. Mrs. Hamilton, salary for November-	60.00	21. Dr. S. R. Miller, Medical Defense---	7.00
2. E. S. Shannon, postmaster, stamps---	5.00	24. E. S. Shannon, postmaster, stamps--	5.00
4. Dr. S. R. Miller, Medical Defense---	3.00	24. Dr. S. A. Miller, Medical Defense---	17.00
11. Dr. S. R. Miller, Medical Defense---	7.00	27. Rich Printing Co., Journals \$210,	
11. Rich Printing Co., Journals \$210,		500 extra copies \$6.50, 2 cuts \$7.50,	
stamps \$9 -----	219.00	postage \$7 -----	231.00
16. Dr. S. R. Miller, Medical Defense---	4.00	27. Dr. S. R. Miller, Medical Defense---	13.00
16. Dr. Olin West, Secretary, on salary--	90.00	March.	
19. E. S. Shannon, postmaster, stamps---	5.00	1. Dr. J. C. McClaran, refund on money	
20. Dr. S. R. Miller, Medical Defense---	9.00	order -----	.50
20. Dr. S. R. Miller, Medical Defense---	20.00	1. Mrs. Hamilton, salary for February-	60.00
23. Dr. S. R. Miller, Medical Defense---	1.00	2. Ambrose Printing Co., ledger \$2.50,	
23. Henry Bell, janitor services -----	5.00	stenographic books 30c, yellow shets	
24. Ebb Lee, delivery December Journals	1.00	typewriter ribbon and pen points--	4.40
24. Dr. S. R. Miller, Medical Defense---	1.00	2. Dr. S. R. Miller, Medical Defense---	17.00
27. Dr. S. R. Miller, Medical Defense---	10.00	4. Ambrose Printing Co., rubber banks	
30. Rich Printing Co., Journals \$210,		and clips -----	1.15
stamps \$7 -----	217.00	5. Dr. S. R. Miller, Medical Defense---	15.00
January.			
2. E. S. Shannon, postmaster, stamps---	5.00	6. E. S. Shannon, postmaster, stamps---	5.00
2. M. C. Lowery, office rent, one month	15.00	8. Cumberland Tel. & Tel. Co. -----	8.00
5. Dr. S. R. Miller, Medical Defense---	59.00	8. Dr. Olin West, Secretary, on salary--	95.00
7. Ambrose Printing Co., ledger \$3.45,		10. Dr. S. R. Miller, Medical Defense---	20.00
3M. letter heads \$18, 3M. envelopes		15. Dr. S. R. Miller, Medical Defense---	16.00
\$12, 3M. membership cards \$10--	43.45	16. M. C. Lowery, office rent, one month	15.00
		18. Dr. S. R. Miller, Medical Defense---	20.00
		22. Ebb Lee, delivery of March Journals	1.00
		23. Dr. S. R. Miller, Medical Defense---	27.00

25. Dr. Olin West, balance on annual salary -----	85.00
25. E. S. Shannon, postmaster, stamps----	5.00
25. Dr. S. R. Miller, Medical Defense----	15.00
29. Ervin Thompson, janitor services----	5.00
29. Rich Printing Co., March Journals \$210, 200 extra copies \$13, 6 cuts \$29.70, postage \$10 -----	262.70
29. Dr. S. R. Miller, Medical Defense----	17.00
31. Mrs. Hamilton, salary for March----	60.00
31. Dr. S. R. Miller, Medical Defense----	11.00
31. Dr. S. R. Miller, Medical Defense----	13.00

Total disbursements -----\$6,443.19

J. F. GALLAGHER, Treasurer.

Audited and approved:

J. T. MOORE,

OLIVER W. HILL,

O. DULANEY,

Auditing Committee.

## NOTES AND COMMENT

Two hundred and forty-five registered at the Chattanooga meeting. As usual, some who were there did not register.

Forty-eight counties of the sixty-eight which have county medical societies were represented at the Chattanooga meeting.

Eighty of the Chattanooga doctors took time to register.

Twenty-three Nashville physicians were on hand at Chattanooga.

Knox County sent twenty-one to the annual meeting.

Of the more than two hundred and fifty members of the Memphis and Shelby County Medical Society seven were at the Chattanooga meeting. These seven, however, "delivered the goods."

Nine West Tennessee counties—Henderson, Shelby, Madison, Dyer, Gibson, Tipton, Weakley, Carroll and Crockett—were represented at Chattanooga.

Nineteen Middle Tennessee counties—Davidson, Wilson, Maury, Smith, White, Putnam, Sumner, Bedford, Franklin, Grundy, Warren, Giles, Montgomery, Stewart, Ruth-

erford, Cumberland, Coffee Jackson, Marshall—were represented at Chattanooga.

Twenty East Tennessee counties—Hamilton, McMinn, Monroe, Knox, Johnson, Sullivan, Washington, Roane, Greene, Cocke, Rhea, Campbell, Bradley, Blount, Jefferson, Anderson, Morgan, Scott, Hamilton, Loudon—were represented at Chattanooga.

We wonder where the others were? Williamson, for instance? And Dickson? and Henry? and Lauderdale? And Carter? and the other fifteen?

At the meeting of the Tennessee State Board of Health held at Nashville on April 15, Dr. E. M. Sanders, Nashville, was re-elected President for the year, and Dr. W. J. Miller, Johnson City, Vice-President.

Dr. A. S. Dabney, Nashville, who served as Major in the Medical Corps, U. S. Army, returned to his practice in March. Dr. Dabney has offices in the Eve Building.

Since the destruction of the Highland Sanatorium at Nashville by fire, the old Douglas Infirmary has been purchased and the name has been changed to "The Douglas Sanatorium. Dr. A. E. Douglas, formerly Superintendent of Central Hospital, will be in charge of the new institution.

The Tennessee State Medical Association should have two thousand members this year. Help get them.

## MISCELLANEOUS

### THE VALUE OF MILITARY SURGERY IN CIVILIAN PRACTICE—RESULTS OF ANOCIATION IN REDUCING MORTALITY.

In addressing the seventy-third annual meeting of the Ohio State Medical Association Journal O. S. M. A., September, 1919, p. 541), George W. Crile, of Cleveland, emphasized the value of Anociation in reducing operative mortality.



"The Interallied Surgical Conference," said Dr. Crile, "adopted as one of its conclusions that in the treatment of wounded soldiers the anaesthetic of choice is nitrous oxide-oxygen combined with local anaesthesia. Among the evidence offered in support of this tenet Surgeon-General Sid Anthony Bowlby presented the work of one of the most brilliant British military surgeons, Captain Douglas C. Taylor, and the work of the Chief of the Anaesthetic Service of the British Army, Captain Gregory Marshall. The experience of Captain Taylor I am privileged to quote. He has summed it up as follows: 'Until the summer of 1917 my colleague, Captain G. Marshall, invariably gave ether for my laparotomies for gun-shot wounds of the abdomen. No series of 100 consecutive cases showed a recovery rate of much over 50 per cent.

"During the summer and autumn of 1917, I did 101 laparotomies for abdominal wounds and nearly half of them were given nitrous oxide and oxygen combined with infiltration of the abdominal wall with eucain and novocain. The more serious cases, i. e., those with rapid pulse and low pressure were nearly all done by this method.

"Of this series, 27 died at the Casualty Clearing Station, and 74 were evacuated to the base; of the latter there have been only two deaths, both from secondary hemorrhage—one from the kidney and the other from the rectum and buttock.'"

That is, by the employment of anociation, Captain Taylor's mortality rate was reduced from approximately 50 per cent to 29 per cent.

Captain Marshall has demonstrated that patients may apparently do well during the ether anaesthesia but do badly afterward, while they do well both during and after nitrous oxide-oxygen anaesthesia.

The experience on a large scale of the resuscitation teams from the Lakeside Unit which served continuously throughout Field Marshall Haig's great offensives in Flanders in 1917, during which there were over 800,000 casualties, showed that in abdominal operations somewhat better results were obtained if, before the beginning of the oper-

ation sufficient blood were transfused to permit a safe performance of the operation; and again at the completion of the operation an ample amount of blood up to 750 c. c. were given. Furthermore, if a let-down appeared later, the transfusion might be repeated. Meanwhile, the advantages of comfort, rest, warmth, morphia and fluids were added.

The advantages of the nerve-blocking are further emphasized by Colonel Cabot's series of 180 amputations of the thigh, one-half under ether, and one-half under spinal anaesthesia with a reduction of mortality by the use of spinal anaesthesia of 50 per cent; while Captain Taylor by the use of nitrous oxid-oxygen reduced his mortality rate for thigh amputations more than 200 per cent.

#### A NOTE ON THE VALUE OF NITROUS OXID<sub>2</sub> OXYGEN ANAESTHESIA IN WAR SURGERY.

Reporting to the Southern Medical Association on his experiences with anaesthesia in war surgery, Dr. Addison G. Prenizier, of Charlotte, N. C., formerly Chief of Surgical Service, Base Hospital No. 6, A. E. F., says that nitrous oxid-oxygen was used only between September 10 and November 14, 1918, not that the surgical staff did not prefer it, but because the unit was late in receiving its apparatus and was not able to secure more gas when the first supply was exhausted.

Publishing his observations (Southern Medical Journal, October, 1919,) Prenizer explains that:

"During the sixty-five days' period anaesthesias were given as follows:

Ether	473
Nitrous Oxid-Oxygen	341
Local	87
Chloroform	7
	908

"We have used ether overwhelmingly over other anaesthetics, quite a number of infiltration anaesthesias with novocaine and cocaine and but little chloroform. We have rarely used ethyl chlorid as a general anaesthetic, but have used it locally for small in-

cisions. There was but one death we could attribute to an anaesthetic and that was a death from chloroform in unskilled hands.

"The tranquility of the patient, the rapidity and ease of induction, the rapidity of recovery and the safety withal gives nitrous oxid-oxygen quite an advantage over the other anaesthetics in the first and second stages of anaesthesia, especially in cases where an absolute muscular relaxation is not needed. Even when there is superimposed for deeper anaesthesia, the amount is reduced to a minimum to maintain the period of relaxation.

The types of cases where gas-oxygen is most valuable are:

1. Shock cases.
2. Cases where operation is to be short duration.
3. Cases where the condition is profoundly bad and the post-operative period treacherous.
4. Chest cases, with the exception of those liable to show hemorrhage, and
5. Infection of the respiratory tract.

Gas-oxygen is of great value in war surgery since the greater number of delayed primary and secondary suture of wounds can be made with the use of this anaesthetic alone.

The special advantages of gas-oxygen in war surgery are:

1. Ease and rapidity of inducing anaesthesia, thus preventing a struggle, enabling the immediate beginning of the preparation of the field of operation and the carrying on of several parallel operations without the one disturbing or distressing the other.

2. Rapid recovery and rapid exchange of patients between operating room and ward.

3. The relief from the care of recovering patients on the wards and the consequent liberation of the personnel for other duties.

All these points are important when the large number of secondary wound closures are considered as many as 60 in a single day.

The comfort of the patient is a decided point. There was no death nor injury from this anaesthetic."

The annual convention of the National Anaesthesia Research Committee will be held in Pittsburgh the week of October 4, in con-

junction with that of the Inter-State Anaesthetists' Association and the Pennsylvania Medical Society. Prizes aggregating \$200 are offered by the Society for the best papers on original research in anaesthesia, such papers to be read at the annual meeting. This offer is open to all surgical, medical, and dental students, and practitioners in the United States.

### NEW AND NONOFFICIAL REMEDIES.

Anesthesin-Calco—a brand of benzocaine complying with the N. N. R. standards (see New and Nonofficial Remedies, 1920, p. 33). Calco Chemical Company, Boundbrook, N. J.

Gonococcus Vaccine (Polyvalent) (Gilliland)—a gonococcus vaccine (see New and Nonofficial Remedies, 1920, p. 283) prepared from a number of strains of *M. gonorrhoea* Neisser. Marketed in packages of four syringes containing, respectively, 250, 500, 1,000 and 2,000 million killed gonococci; also in packages of four 1 Cc. ampules containing respectively, 250, 500, 1,000 and 2,000 million killed gonococci. The Gilliland Laboratories, Ambler, Pa.

Ovarian Residue-Hollister-Wilson—the residue from the fresh ovary of the hog, after the ablation of the corpus luteum. It is used for the same conditions as the entire ovarian substance (see New and Nonofficial Remedies, 1920, p. 101) but is claimed to be somewhat more stable. Hollister-Wilson Laboratories, Chicago Jour. A. M. A., March 6, 1920, p. 675).

Phenacaine—Holocaine hydrochloride. The hydrochloride of phenetidyl-acetphenetidine, a basic condensation product of part phenetidine and acetparaphenetidine. Phenacaine was first introduced as holocaine hydrochloride. It is a local anesthetic like cocaine, but having the advantage of a quicker effect and an antiseptic action. Five minims of a one per cent solution when instilled into the eye are usually sufficient to cause anesthesia in from one to ten minutes.

Phenacaine-Werner—a brand of phenacaine complying with the N. N. R. standards. Werner Drug & Chemical Company, Cincinnati, Ohio (Journal A. M. A., March 27, 1920, p. 889).

## CARBOHYDRATES IN TREATMENT OF EARLY PREGNACY.

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A series of seventy-six cases of toxemia of early pregnancy was treated along certain definite lines by Paul Titus, George L. Hoffmann and M. H. Givens, Pittsburgh (*Journal A. M. A.*, March 20, 1920) the treatment varying only in being more or less rigid, according to the severity of the woman's illness. The development of a course of treatment, the success of which seemed to depend on the use of carbohydrates in large amounts, led to the assumption that a deficiency in carbohydrates has an important bearing on the origin of toxemia of pregnancy. Carbohydrate deficiency during pregnancy is of two-fold origin: (1) a relative deficiency due to an unexpected demand for glycogen on the part of the fetus and the uterus, and (2) an actual deficiency, augmented in the presence of nausea and vomiting, from lessened carbohydrate intake. There is experimental evidence to show that liver function is impaired and the body flooded with toxins after carbohydrate starvation. Mild cases of nausea and vomiting may be controlled by so regulating the diet that there is a preponderance of carbohydrates, and an avoidance of more than short intervals of fasting by the taking of food more frequently than under ordinary circumstances. This increased carbohydrate intake should be augmented by giving the patient from 8 to 16 ounces of 10 per cent glucose and 2 per cent sodium bicarbonate solution daily by mouth. This may be given in 1 or 2 ounce doses. More severe cases require more rigid attention. After an initial period of rest, gastric lavage and the introduction of saline cathartics through the stomach tube, small amounts of liquid food are allowed alternately with from 1 to 2 ounces of the glucose and soda solution, described above, every two hours. By mouth or by bowel it should be possible to give the patient 1 quart of this solution daily. In the seriously toxic patients the treatment is pushed ever more vigorously with the addition of intravenous injection of from 15 to 25 gm. of glucose in from 250 to 300 c. c. of

water. This is given from one to three or more times daily, according to the needs and response of the patient. The injections should be made in close accordance with the directions in the body of this paper. Other treatment is carried out along much the same lines as that for the second group of patients. Not only is intravenous injection of glucose solution a valuable therapeutic measure, but the rate of its absorption and storage by the liver is an index of liver efficiency which is of prognostic value. More rapid storage than normal is favorable because it indicates that the liver, depleted as it has been of glycogen, is nevertheless still able to restore itself. Storage which is slower than normal offers an unfavorable prognosis, since this is evidence that liver efficiency is impaired. Our clinical evidence regarding these views is still too limited to permit a definite conclusion, but our experience thus far has been entirely confirmatory.

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## GENERAL PROGNOSIS OF SYPHILIS.

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According to Sigmund Pollitzer, New York (*Journal A. M. A.*, March 20, 1920), there is no factor in the prognosis of syphilis that is comparable in importance with early and energetic treatment. The syphilis that has been generalized in the system, that has infected every organ and tissue, that, in the course of years, has induced sclerotic changes in important structure, presents an entirely different prospect of cure from the disease in its incipience. The treatment of syphilis by the vigorous exhibition of arsphenamin in its primary stage, while the disease is still largely a local infection and before the organisms have acted long enough on the tissues even to provoke the development of a positive Wassermann reaction, results in the immediate cure of the disease in practically every case. It is in its primary stage that the prognosis of a properly treated case of syphilis is at its very best. The prognosis of syphilis has been immeasurably improved by the discovery of the spirochete. The second great achievement of recent years is the application of the Bordet-Gengou method of comple-



ment fixation to syphilis—the Wassermann test. The third achievement is the employment of the organic arsenic compound to which the name arsphenamin has been officially assigned. The recent additions to our knowledge have made it possible to attack the disease by prophylaxis at the moment of infection; to make an infallible diagnosis before the system is swarming with spirochetes; to recognize the necessity for further treatment even in the absence of symptoms; to detect the disease in the central nervous system before clinical symptoms are manifest, and, finally, in arsphenamin, have given us a remedy incomparably superior to mercury in speed of action as well as in efficacy. It is conceivable that the next generation will not reap the benefit of the improved prognosis of syphilis.

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#### NEW METHOD OF DELIVERY IN BREECH PRESENTATION.

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A method of delivery in which extraction of the extended arms is rarely necessary is described by Harbeck Halsted, New York (Journal A. M. A., March 20, 1920). Until the breech delivers from the vulva, the procedure is the same as with any other breech delivery. As soon as the breech delivers, the child is covered with a warm, wet towel, and gentle traction is made downward and backward, assisted by pressure from above, until the umbilicus is delivered; then a loop of the cord is pulled down, the child is grasped about the pelvic girdle, and strong traction is made downward and backward. The bisacromial diameter of the body is kept in the anteroposterior diameter of the maternal pelvis until the anterior scapula is seen to slip under the symphysis; at this point it is very easy to deliver the anterior arm from the vagina. Now the child's body is lifted over the mother's abdomen, whereupon the posterior arm will slip out. The occiput is allowed to rotate under the symphysis, and the body to go with it. "The child is placed along the right forearm, the index finger is put in the child's mouth, with the forefinger of the left hand over the child's shoulders, care

being taken not to fracture the clavicles, and moderate traction is made downward and backward until the mouth can be delivered by flexion upward. After the mouth is delivered, one should go slowly unless there is some indication for speed. The author advises that before the delivery is begun, the position of the child should be made out accurately so that there will be no danger of allowing the occiput to rotate posteriorly. This can be prevented by always delivering the anterior hip first and assisting the rotation of the occiput forward by rotating the body in the proper direction. In left sacral positions, the child's body should be rotated to the right and anteriorly. In right sacral positions, to the left and anteriorly. Before any traction is made from below, an assistant makes firm pressure on the child from above; this pressure is continued until the child's mouth is delivered. It is made in such a manner that the head will remain flexed on the chest and the arms will not extend. This pressure is a very important part of the delivery.

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#### AGREEMENT IN RESULTS OF THE WAS- SERMANN REACTION.

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The blood serums of 3,000 patients were subjected to the Wassermann tests by two independent laboratories. An analysis of the results made by H. C. Solomon, Boston (Journal A. M. A., March 20, 1920), showed that there was a complete uniformity in the findings of the two laboratories in 93.44 per cent. The 6.56 per cent variation included cases reported as doubtful. Considering only the variation of cases reported positive by one laboratory and negative by the other the percentage variation was 4. This was 1.4 per cent positive in one laboratory and 2.6 per cent positive by the other laboratory. Some of the cases reported positive by one laboratory and negative by the other were known to be syphilitic, so that the negative reaction was the incorrect one. Considering then, the cases that either laboratory may have reported as positive in nonsyphilitic cases, the percentage was 3.16. This is probably a

higher percentage for false positives than actually occurred, as some of these cases were presumably syphilitic. This percentage variation is based on only one test. Repetitions resulted in a uniformity of findings in the majority of cases. This is considered a good testimonial for the accuracy of the tests as performed in these two laboratories.

#### **DIFFERENCES IN PATHOLOGY OF PANDEMIC AND RECURRENT FORMS OF SO-CALLED INFLUENZA.**

The data analyzed by Douglas Symmers, Morris Dinnerstein and A. D. Frost, New York (Journal A. M. A., March 20, 1920) were obtained from cases occurring in New York City. The first recurrent epidemic of so-called influenza in New York presented anatomic variations from the pandemic disease of a year before, (a) in the form of frequent and widespread inflammatory involvement of the pleura characterized by semipurulent and purulent exudates occurring in immediate association with pneumonic changes; (b) by multiple small pleural or subpleural abscesses; (c) by purulent infiltration of the interlobular and interlobar pleura, and (d) by solitary, oftener multiple, discrete or confluent intrapulmonary abscesses varying in size from a few millimeters to several centimeters. In the pandemic disease of 1918, the participation of the pleura in the pneumonic process was conspicuous by its rarity. In the recurrent epidemic, pleural involvement occurred in 60 per cent of all cases; and in 40 per cent, purulent or semipurulent effusions were present. In the epidemic of 1918, intrapulmonary abscesses were virtually unknown accompaniments of the pneumonic process. In the recurrent epidemic, they were encountered in 35.5 per cent of all cases. Of the total number of cases attended by pleural involvement (twenty-seven in all), multiple small pleural or subpleural abscesses occurred in twelve, or in 44.4 per cent. As a result of the recurrent disease, sequels may be expected in the form of (a) organization of the inflamed pleural membranes with partial or complete obliteration of the cavity and interference with the excursions of the

corresponding lung; (b) delayed, diffuse or sacculated pleural or interlobar empyemas; (c) fibrosis of the lung following organization of exudate in the interlobar and interlobular septums of the pleura, and (d) gangrene of the lung and bronchiectatic cavities following secondary changes in intrapulmonary abscesses. In the epidemic of 1918, pneumonia was virtually constant, both in point of incidence and in conformation to type. In the recurrent disease, pneumonia was a relatively infrequent event, and the anatomic vagaries in the distribution and structure of the lesions were so numerous that no two sets of lungs were similar in appearance, and often one lung differed markedly from its fellow of the opposite side. In the pandemic disease of 1918, acute degenerative changes in the heart muscle, liver and kidneys were neither frequent nor intense. In the recurrent disease, they were both common and severe.

#### **THE SANITARY CONSCIENCE.**

In that superb series of essays which was to honor Osler in the life, but which his eyes never behold and which is now lamentably enough a memorial to the great physician, Sir Auckland Geddes, the new ambassador of Great Britain to the United States, deploras that physicians in general lack the spirit of citizenship: They are unwilling, he says, to share governmental burdens; they feel but little of that mass emotion which is concerned for physical and mental development, for closer human relationship, and which is finding expression "in centers for child welfare, in schemes for housing the working classes, in the establishment of ministers of health, in reconstruction and research work, in the growth of the labor party, in the spread of socialism and, incongruous though it may seem, in bolshevism and in the great ideal struggle to express itself through the League of Nations." With "brilliant exceptions," the medical profession, Geddes considers, is made up of men whose citizenship, such as it is, "is as divorced from their technical knowledge as is that of the speculator when he jerry-baws new slums."\* Surely there is here no stricture as to the medical profession in the United

States, which, in the last decade at least, has shown itself so zealous in the communal interest. Consider a few data in point: The medical profession several years ago sought most earnestly and with no selfish motive for the establishment of a national department of public health, with representation in the President's cabinet. This movement, promising so much nation-wide beneficence, was frustrated through the efforts of agencies which can hardly be said to have been saturated with zeal for the welfare of our people. Also, there is even the insistence, by the informed physician, on the fact that tuberculosis is far from being only a doctor's affair, but that it is probably the most degenerating social and economic factor in civilization. Many, no doubt most medical societies, have their public health sections or committees in which the application of twentieth century preventive measures to the correction of untoward communal conditions has been thoroughly promulgated, in which factory insanitation, woman and child labor, impure air and water, and a thousand and one other aspects of general unhealthfulness are exhaustively considered. There does, indeed, appear to be in our body politic some indication of an upsurging "mass emotion" making for human physical and mental betterment. Rosenau of Harvard has better characterized this salutary and promising emotion as an awakening sanitary conscience among our people. "The modern science of preventive medicine," he has said, "teaches the lesson of the unselfishness of community interest and has been a potent biological factor underlying the present trend toward socialism." Such teaching, by physicians interested in the larger aspects of medical science, is now in the way of bearing fruit.—*Jour. A. M. A.*, March 20, 1920.

\*Geddes, Sir Auckland Social Reconstruction and the Medical Profession. Contributions to Medical and Biological Research. Dedicated to Sir William Osler, in honor of his seventieth birthday, by his people and co-workers, July 12, 1919, p. 70.

### NEUROSYPHILIS.

J. A. Kolmer, Philadelphia (*Journal A. M. A.*, March 20, 1920), describes rather elaborately a plan of treatment of neurosyphilis

with mercurials and arsphenamin which avoids some objections that may be made to the Swift-Ellis method. In addition, it takes advantage of the probable value of drainage treatment advocated by Dereum and Gilpin. Care is taken to exclude all cases of probable brain tumor before the treatment is given. The description is minute and can hardly be well condensed into an abstract. The advantages are summed up as follows: "1. The patient receives arsphenamin both intravenously and intraspinally. 2. Blood is removed at once, insuring in the serum a larger amount of arsphenamin than is secured after an interval of an hour, as in the Swift-Ellis method. 3. Plasma or serum is secured at once, rendering the complete treatment possible within two or three hours instead of an interval of over night between the intravenous and intraspinal treatments. 4. The removal of from 20 to 30 c. c. of cerebrospinal fluid, followed by the injection of but 10 to 12 c. c. of arsphenamized serum, very probably leaves cerebrospinal fluid pressure reduced for some time, producing increased vascularity of the cord and probably also of the brain, while the beneficial effects ascribed alone to spinal drainage. Indeed, the injection of the arsphenamized serum within an hour of the intravenous injection may increase extravasation from the vessels of the meninges by reason of the irritation produced by the serum and arsphenamin in the subarachnoid space, in addition to the increased vascularity and transudation ascribed to reduction alone of cerebrospinal fluid pressure. 5. The patient receives the benefit of treatment with mercury and iodids and of spinal drainage conducted while under the influence of these antisyphilitic medicinals." The disadvantage of the method, encountered once in the author's practice consisted in a reaction of flushing and chills. A second specimen of blood was drawn later in the afternoon of the same day and placed in a refrigerator over night, followed by separation of the serum next day, and arsphenamizing by the addition of 0.1 c. c. of a solution of arsphenamin, prepared by dissolving 0.1 gm. in 30 c. c. of 0.8 per cent salt solution



neutralizing with a normal solution of sodium hydroxid (about 4 per cent), adding 2 or 3 more drops of alkali, and then salt solution to bring the total volume to exactly 33 c.c.; 0.1 c.c. of this solution added to the serum represents 0.0003 gm. of arsphenamin. After heating the arsphenamized serum at 56 C. for thirty minutes, a spinal puncture drainage and intraspinal injection was done as before and the patient was kept in bed for another twenty-four hours. The article is illustrated.

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